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Railway Age

SECOND HALF OF 1922—No. 17

NEW YORK—OCTOBER 21, 1922—CHICAGO

SIXTY-SEVENTH YEAR



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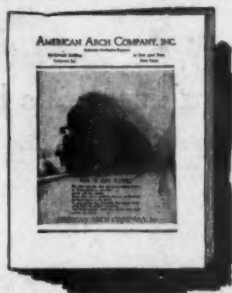
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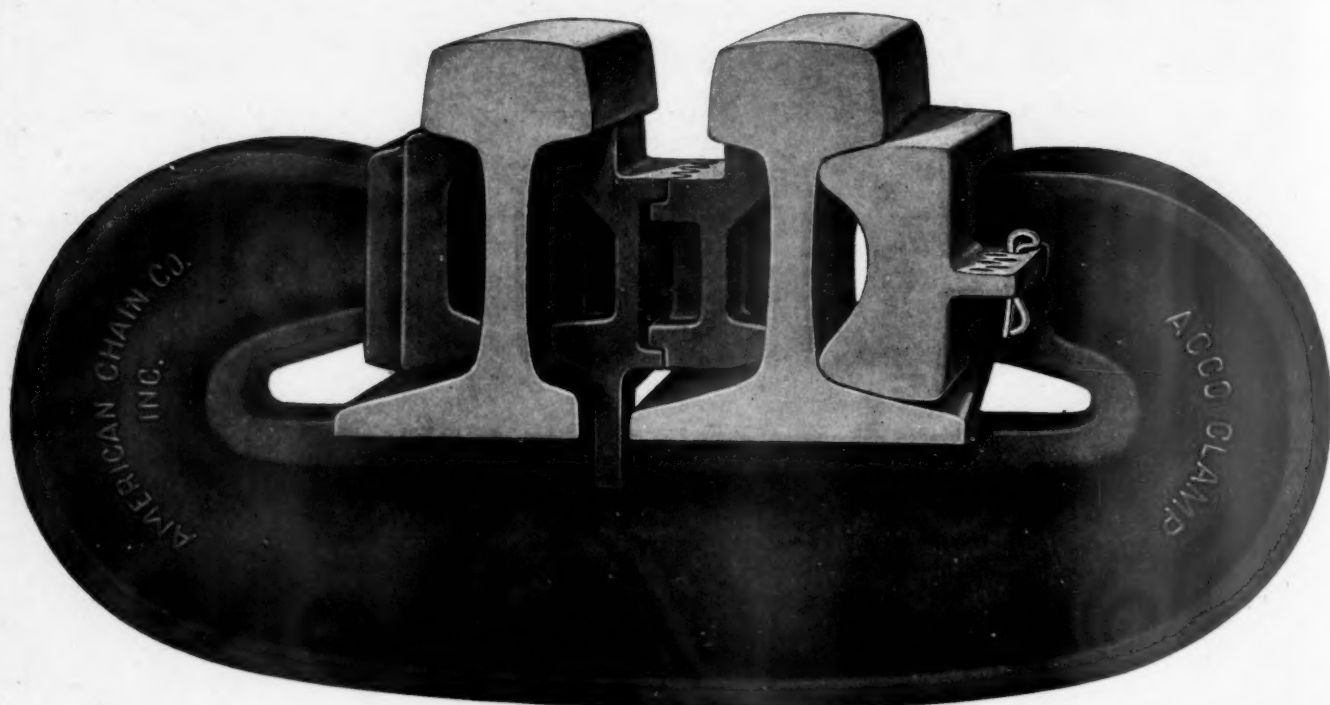
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EDITORIAL



Railway Age

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Will Farmers Favor a Policy Ruinous to Them?

THE TRANSPORTATION situation which now confronts the country is, in most important respects, the most serious in its history. The railways in the week ended September 30 loaded 988,381 cars with freight. This was but three per cent less than the highest record ever made. In spite of this the net car shortage reported in the week ended September 30 was 123,732 cars. Only four weeks before that there was still a small car surplus. Never before was a car surplus turned into a large car shortage so quickly. Seldom has there been a larger car shortage, and judging by the present course of events there is now, or soon will be, a larger car shortage than ever was reported before. The shortage of box cars is relatively as large as the shortage of coal cars. Every class of shippers is complaining that the amount of commodities it can produce and ship is being limited by inadequacy of transportation.

The most striking fact about this situation is that it has developed at the beginning of a period of revival of general business. Never was this the case before. Past shortages of transportation always have been experienced either at the end of a period of expanding industry and commerce or after business revival had been in progress for some time.

It is worse than idle to attribute more than a relatively small part of this transportation situation to the coal strike and the shop employees' strike. It is due almost entirely to the decline in the expansion of the capacity of the railroads which has been going on for 15 years. The annual increase in the number of locomotives in service was almost 90 per cent less and the increase in their tractive power 50 per cent less in the period of seven years ending with 1921 than in the period ending with 1907. The annual increase in the number of freight cars in service was 90 per cent less and in their tonnage capacity 80 per cent less. There was no decline meantime of the increase in the productive capacity of the country's farms, mines and factories. This is the real explanation of the present transportation situation.

While every class of producers and shippers is suffering heavy losses and is threatened with much heavier losses owing to this situation, no class of producers is suffering heavier losses from it or is threatened with heavier losses from it in future than the farmers. The decline in the development of the railroads began with the beginning of the policy of restrictive railway regulation and has been due mainly to it. The business men and farmers of the country advocated this policy and are responsible for it. Most business men, however, have come to a realization of the effects it has had in the past and of the much worse effects that its continuance would have in future. They can be relied on to favor and support a fairer and more constructive policy.

But the business men will not have the controlling voice in determining our future policy of regulation. The farmers will have it, especially the western farmers. And there is the gravest danger that the influence of the farmers will be exerted in favor of making regulation worse instead of better, more destructive of their own and everybody else's interest instead of more constructive.

One of the clearest and most conclusive statements indicating the losses the farmers are suffering, and will in future suffer, from the present transportation situation that ever has been made was made by Julius H. Barnes, president of the Chamber of Commerce of the United States, in an address last week in New York before the National Conference of Business Paper Editors. We publish Mr. Barnes' statement elsewhere in this issue. He is a grain exporter of 30 years' experience, was president of the government's grain corporation during the war, and is, therefore, the highest authority upon the subject he discussed. Consider his statement in the light of the fact that up to the middle of September the railways had moved more grain from the farms than in any previous year. Mr. Barnes showed that owing to inability of the railways to move grain from the agricultural districts to the eastern seaboard in sufficient volume within recent weeks the price being offered for grain in foreign markets and the price being paid for grain on American farms has widened from 10 to 15 cents per bushel more than it otherwise would have. He added: "We have today four billion bushels of grain in the west, the value of which to the farmer in every market in the west is at least 10 cents per bushel below the proper relation with the European consumer markets. You take 10 cents per bushel, assuming this condition continues through the crop year—and it won't, thank goodness—and it would mean a loss in farm revenues of \$400,000,000. That train of evil, that train of economic loss to a basic industry of this country follows, I believe, from an over-rigid system of government regulation over our railroads which has extended over 10 or 12 years."

Mr. Barnes may be, and probably is, too optimistic in expressing the belief that this general condition will not prevail throughout the crop year. At any rate, as an expert he has given a mathematical demonstration that the farmers stand to lose hundreds of millions of dollars on their grain within the next year because of inadequate transportation.

There is only one way to stop this and even larger losses to the farmers. This is by enlarging the capacity of the railways so that they can promptly move to market all the crops grown when the market is favorable. The development of the railways has almost stopped because, as Mr. Barnes indicated, many years of drastic regulation have reduced and

limited the net return earned by them and made it impossible for them to raise the new capital required to enlarge the capacity of their tracks and terminals and provide more locomotives and cars.

In the face of this past experience and of these present conditions consider what is going on among the western farmers. While their prices are being kept down, and there is prospect that a large part of their crops may even be left to rot upon their hands because of inadequate transportation, men who pretend to be their friends and leaders are going among them preaching the doctrine that the unquestionably bad plight in which they find themselves is due to high railway rates, and that another great drive must be made by them at once for reductions of freight rates. Conspicuous among those who are preaching this doctrine are Senator Capper of Kansas, the leader of the farm bloc in Congress; Senator LaFollette of Wisconsin and Smith W. Brookhart, Republican candidate for United States Senator in Iowa.

They are telling the farmers that the railways are making large profits, although the average return earned by them this year on their valuation has been only four per cent, and in August, partly as a result of recent reductions in rates, was only 2.65 per cent. They are telling the farmers that the valuation of the railways is grossly excessive, although it was made mainly by the Interstate Commerce Commission, a body which certainly never in the past has shown itself unduly favorable to the railways, under a valuation law of which Senator LaFollette was the author. They are advocating the restoration to state commissions of the rate-making power they had and recklessly abused before the Transportation Act was passed, and the repeal of the rate-making provisions of the Transportation Act whose so-called "guaranty" clause expired by limitation on March 1, 1922, and the only important remaining part of which is a provision directing the Interstate Commerce Commission in regulating rates to take into consideration the need of the country for adequate transportation.

The representatives of the western agricultural states in the National Senate and House of Representatives constitute a powerful group. It would be worse than foolish to ignore the fact that such men as those mentioned are arousing a formidable sentiment among the farmers. The adoption of legislation such as they advocate would tend to prevent any increases in the present wholly inadequate net operating income of the railways as a whole, and to almost stop the increases in the capacity of the railways which are now being made and to prevent indefinitely the much greater increases in their capacity which the welfare of the country absolutely requires. The total losses which would be suffered by the farmers as a result of such legislation would be greater than those suffered by any other industry, or perhaps all other industries. But the danger that, with the farmers in their present mood and such propaganda being spread among them, such legislation will be passed, is very real.

The whole business of the country would be most adversely affected. The present transportation conditions would continue and grow worse. The party in power would find that the drastic limitation of all production and commerce which would be imposed would make impossible the great and long

increase of prosperity which it is seeking so earnestly to bring about. And yet men high in the national administration who ought to know better are helping to create the very sentiment and to promote the very movement which would do most to defeat what they are trying to accomplish.

It is high time that the facts about the transportation situation and the real reasons for it, and the effects that its continuance and aggravation would produce, were presented by railway men, business men and public men to the farmers. Never in the history of the United States did any men pretending to be their friends do anything better calculated to bring permanent depression and ruin upon the farmers than men like Capper, LaFollette and Brookhart are doing by their advocacy of the most unsound policy of government regulation of railways that ever was conceived. Men such as they are mainly responsible for the present transportation situation. They are not friends of the farmer, but among the worst enemies he ever had, because they are basely and grossly misrepresenting the facts to him, recklessly disregarding the effects upon him to promote their own selfish ambitions. When will something effective be done to combat their propaganda?

The schedule of a passenger train should be made to suit the capacity of the locomotive. That goes without saying.

Saving Minutes for

Freight Trains

But it should fit the capacity of the men also. If the train needs 15 minutes at a division terminal to change locomotives and to supply the cars with water and ice, 15 minutes should be allowed. To allow only 10 minutes, because every other train is allowed that length of time, puts the train five minutes off its schedule and very likely wastes five minutes, or more, of some freight train's time. Making a schedule under which the train can reach the end of its run on time is not sufficient; the engineman should be encouraged to keep on time at every station, not discouraged by requiring him habitually to make up time lost at a station where the loss ought to have been provided against. A dispatcher on a large road remarked recently that there seemed to be a general custom of allowing all passenger trains 10 minutes for changing locomotives, whether the train had 4 cars or 12, and whether it needed 6 minutes or 16. Ten minutes seems to be a popular period, whether a train has much switching or none; whether the station force is small or is large. That dispatcher could think of no better thing to be done to simplify his work than to correct such schedules so as to enable him to always give freights as much time as possible.

The leading factor in the equipment market just now seems to be the increasing volume of freight car orders. The

Equipment Orders in September

orders for cars during August and September were not large; in number they trailed locomotive purchases rather badly. A figure of 11,793 cars for the first two weeks in October seems to indicate, however, that things are beginning to pick up in this respect and that conditions in the remainder of the fall of the year should be somewhat better than they were during the period of the shopmen's strike. The month of September proved to be something of a star performer from the standpoint of locomotive purchases. The total for the month

—617—was twice that of any preceding month this year with the single exception of July, the total for that month being 353. To the end of September the orders in 1922 totaled 1,672 locomotives, 111,160 freight cars and 1,437 passenger cars. These are not exactly record-breaking figures but they are not at all bad considering the number of idle serviceable or bad-order cars earlier in the year. The details follow:

CAR AND LOCOMOTIVE ORDERS

	Locomotives	Freight cars	Passenger cars
January	5	7,960	235
February	8	14,721	160
March	76	5,550	25
April	272	30,507	540
May	99	18,337	235
June	22	11,097	37
July	353	15,675	120
August	220	576	22
September	617	6,737	63
Total nine months.....	1,672	111,160	1,437

October, first two weeks: Locomotives, 120; freight cars, 11,793; passenger cars, 30.

It would be difficult to over-estimate the practical returns, if the employees on the railroads generally could get back into the attitude which was predominant on most American railroads a few generations ago, when they referred to their roads with a feeling of real pride as "our road." Because of the consoli-

Cultivating a Family Spirit

dation and enlargement of properties and more intensive operation, capped by certain developments under federal control, this spirit has been lost on most roads, at least to a large degree. It is significant, however, that railroad executives generally realize the necessity of taking steps to bring it back and to have all of their employees feel as if they were members of a great family, of which they could well afford to be proud. As one way in which to develop and cultivate this family spirit, a considerable number of roads have maintained employees' magazines, some of them for a long time. The Pennsylvania Railroad, however, has recently gone one step further and is publishing regional bi-weeklies, in which at least 90 per cent of the space is devoted to news about the employees and their families. Its purpose is to get the employees better acquainted with one another, with the officers and with the property, and to weld them into one great, contented family. An article elsewhere in this issue, by Logan B. Sisson, briefly touches upon the aims and advantages of these regional newspapers and tells how large numbers of the employees co-operate in gathering the news and preparing material for publication. The experiment is still in an early stage, but it would seem to contain great possibilities. It differs so greatly from the average employees' magazine, as now published, as to indicate the desirability of studying the new development closely and critically to determine whether the employees' magazines can be benefited by a change or modification in their present policies.

Interested observers who have had the opportunity of seeing newspapers from different parts of the country may have noticed that railroad problems seem to be the subject of somewhat unusual attention at present in two widely separated sections—California and New England. The discussion in California concerns the Southern Pacific-Central Pacific segregation. In New England the matter of railroad consolidations has been given particular attention and in general there has

A Shipper's Tribute

become evident a feeling which has as its basic thought the welfare of the New England railroads. This results partly because the executives of the railroads serving New England have inspired confidence in the favorable and improved results which the rail lines have secured. Another reason is the realization on the part of shippers and others interested that the welfare of the railways is a most important factor in the welfare of industry generally. At any rate, shippers, bankers and others in New England are showing an unusual interest in the railways which serve that section and the sort of interest which cannot but be helpful. A practical incident of the new attitude appeared as an advertisement in Boston papers a few days ago. It was headed "The Boston & Maine's Constructive Policies" and said:

"We desire to call the attention of New England business men, particularly those in the cotton trade, to an illustration of the broad-visioned policy of the Boston & Maine Railroad in co-operating with New England industry. We refer to the granting by the railroad of the storage-in-transit privilege on cotton at Lowell, by which cotton may be shipped from southern points to Lowell, stored there pending sale, and later reshipped to other mill centers, on the payment of the through freight rate from the South to the ultimate destination.

"In suggesting to the Boston & Maine that they grant this privilege, we found that the officials were willing to consider it from only one standpoint—whether or not it would help New England industry. When we pointed out that it would be of great advantage to New England cotton merchants and manufacturers, effecting economies that would help mills to meet the constantly growing Southern competition, the railroad management quickly acceded to our request. We believe New England business men will join with us in our appreciation of this constructive co-operation on the part of the Boston & Maine Railroad in upbuilding New England industry.

"LOWELL PUBLIC WAREHOUSE COMPANY, INC.,
"Lowell, Mass."

For a shipper to advertise a railroad is new and of more than common interest. Looked upon as an expression of a somewhat new and more favorable attitude, it is one of the best indications we have seen concerning the manner in which railway conditions in New England are shaping themselves.

One railroad purchasing policy which has come in for considerable criticism recently is the practice of requiring the

Three-Machine Option Criticized

mechanical department, or tool committee, to specify at least three makes of each type of machine tool desired. Objections to this practice cannot be more briefly or fairly stated than in the following quotation from a manufacturer's letter: "Many of the railroads have adopted the policy of insisting that the mechanical department specify at least three makes of tools, any one of which the purchasing department is free to buy, although preference may be expressed for one of the three. While at first blush this appears a perfectly fair plan, it works a decided hardship on the leader in the field as well as on the railroad itself for, naturally, if any one tool has outstanding features, or is superior in quality, the price is apt to be somewhat higher. Although the difference in performance may pay many times over for the comparatively slight difference in first cost, the purchasing department has no means of gaging the value of such differences and so places the order for the cheapest of the three tools pronounced as acceptable. The mechanical department should have the privilege of specifying a particular make of tool provided the difference in price is no more than a fair differential over the next best machine in the class. Unless some such policy is adopted, the railroads will rarely get the most efficient tools but will receive only the second or third best. Furthermore, they are apt to pay more than the inferior tools are really worth for the third grade manufacturer will keep his price just low enough to get under the two leaders in his field, knowing that by so doing he is practically certain of securing the business." The arguments presented above are sound and hold particularly in the case of machine equipment for large shops and enginehouses where high produc-

tion is possible and desirable. For this work, durability and productive capacity are of the utmost importance, first cost being entirely secondary. The high-duty machine is a paying investment at any price within reason. For relatively small shops and terminals at outlying points, however, it is not maintained that the requirements always call for modern machines of the most improved type. The solution of the problem is to leave the final selection of machines to be ordered in the hands of the mechanical department. Knowing the appropriations available and being responsible for maintenance of equipment costs, the mechanical department should not be debarred from specifying the best machine of a given type on the market if it feels that conditions warrant such action.

The Rock Island's Big Celebration

THE MANAGEMENT of the Chicago, Rock Island & Pacific recently has done one of the best pieces of public relations work that it has been possible to credit to the management of any railroad within recent years.

Its officers some months ago conceived the idea of having a celebration of the seventieth anniversary of the founding of the railroad. The principal part of the celebration took place at Joliet, Illinois, on October 10. A special train was run from Chicago to Joliet, 40 miles, over the first section of the line ever opened to operation. Among its passengers on the special was a venerable woman who rode on the Rock Island's first passenger train 70 years ago. Other passengers included the directors and officers, and the train was in charge of five employees whose aggregate service on the road totaled 200 years. A monument to the engineer who surveyed the route between Chicago and Joliet was unveiled at Joliet by his granddaughter, the dedication speech being made by President J. E. Gorman. An address also was delivered by Chairman Hayden.

The foregoing brief statements of fact give a very inadequate idea of the length, extent and enthusiasm of the Rock Island's celebration. It really began weeks ago and was only finished on October 10. Soon after the plan for it was announced facts and anecdotes about the history of the railroad began to be furnished to the press throughout its large territory. The history of every large railroad is in great part the history of the territory it serves. This is conspicuously true of the Rock Island's history, for years ago it was built far out into sections of the country which were almost unsettled and almost wholly undeveloped. Its construction more than anything else made it possible for them to become settled and developed, and in consequence its history has made it possible for these sections to have any real history.

The newspapers in the Rock Island's territory soon saw how the preparations for the Rock Island's celebration made it possible for them to print many stories about the history of the railroad, and about their own communities and the railroad's relation to them, which were made timely and especially interesting because of the preparations for the celebration. Consequently the Rock Island's celebration became the subject of newspaper stories and of talk by the people in every community where it runs. An account of the services at Joliet were sent out by radio and heard by many thousands of people.

The conception and carrying out of the Rock Island's celebration undoubtedly has done much to make a very large part of its employees and patrons think and speak of it as "our railroad" who had not shown the same interest in it or had the same feeling toward it for years before. Furthermore, it has resulted in many things being told and published about the railroad which have revived memories of the great

part it has played in developing the middle west and the southwest, and in converting, from almost a desert into fruitful and happy farming communities and towns and cities, lands which but for the railroad would still be virtually a desert.

The *Railway Age* has said much within the last year about the necessity of the railroads doing more to "sell" themselves to their employees and the public. The Rock Island has hit upon and carried out one of the happiest and most effective methods of selling itself to its employees and the public that could have been adopted. The Rock Island having used it so well, the same means probably could not be used so successfully soon by any other railway in its territory. The same method could, however, be used with corresponding results by railways in other parts of the country. Furthermore, the method the Rock Island adopted is but one of many which could be used to arouse a sympathetic interest on the part of employees and the public in their railways, and to make them better understand and appreciate what the development of the railways in the past has meant to the country and what their adequate development in future will mean to it.

The officers of the Rock Island are to be congratulated not only upon the progress they have made within recent years in increasing the efficiency and the earning capacity of the property, but also upon the good stroke they have made in adopting a very ingenious, pleasing and effective way of causing their employees and the public to appreciate the railroad more.

Engineering and Electrification

THE REPORT of the electrification commission of the Illinois Central recommending 1,500-volts direct current with an overhead contact for the electrification of the Chicago terminals should not be construed as a solution for the problem of deciding the voltage for other projects. Many railroads and manufacturers have, no doubt, watched with interest the work of this electrification commission, composed of some of the best qualified men in the country, for a period of over two years, in hopes that its deliberations would bear fruit in the form of conclusions of wide application to steam railroad electrification.

However, it should be understood that this commission, in the study of various electrifications of America and Europe, and in the preparation of detailed estimates of at least four distinct systems, had no intention of solving electrification problems in general but was concerned solely with the design of a plan of electrification to meet the needs of a particular situation.

In contrast to many other electrification projects, that confronting the Illinois Central is *not* required to meet any special operating necessity but rather represents a concession to the civic development of the city of Chicago. Therefore, the desired benefits of the proposed electrification lie within the city limits. As the Illinois Central lines operate through a comparatively level country and traverse several coal mining districts, reason would indicate that under such conditions steam locomotives will handle the traffic for years to come. Therefore, no consideration was given to the possibility of the electrification being extended to adjacent divisions.

In conclusion it should be emphasized that the decision of the Illinois Central applies only to a short mileage of terminal area handling a heavy suburban business, freight transfers and yard switching. This combination controlled the final decision and any road confronted with circumstances that vary from this by a single factor must engineer its own investigations.

Letters to the Editor

[The RAILWAY AGE welcomes letters from its readers and especially those containing constructive suggestions for improvements in the railway field. Short letters—about 250 words—are particularly appreciated. The editors do not hold themselves responsible for facts or opinions expressed.]

A Question for the Signal Engineer

KANSAS CITY.

TO THE EDITOR:

Will some studious signal engineer tell us the average number of trains per day which must pass over a given crossing of two railways at grade in order to make it profitable to install a simple mechanical interlocking plant, making "whistle stops" unnecessary?

On a double track section, about 70 miles in length, of one of the most prosperous railways in the Middle West enginemen are required to bring their trains to a full stop at four places for unprotected junctions and grade crossings. This section of road is equipped with automatic signals. We are told that these signals "keep trains moving." Yet does anyone know of an instance where the installation of automatic signals has reduced train stops in such proportion as four simple mechanical interlocking plants would reduce them on this road?

This 70-mile example is rather out of the ordinary for a double track road, it must be admitted, yet there are many—almost countless—unprotected crossings at grade of busy single track railways in this part of the country.

The funds available for capital expenditures are limited. The wise railway officer will spend these funds on those improvements which promise the highest net return. The saving which a simple interlocking plant—or perhaps even better, the automatic installation for railway crossing protection which was described in your issue of May 20, 1921—could bring about, should place investment in such facilities on the list of the wisest which railroads can make.

It is the signal engineer's business to tell his superiors what expenditures in signal facilities will pay the largest returns on the investment. Can any signal engineer, then, conscientiously advocate the installation of any of the plain or fancy types of automatic signals while there yet remain in his territory railway grade crossings and junctions unprotected by any type of signal whatever and where, consequently, all trains have to be brought to a full stop?

QUAESTOR.

Cost of Selling Machines to Railroads

NEW YORK.

TO THE EDITOR:

Your editorial in the issue of July 15 with the above title is timely. We are heartily in accord with your findings.

The question—Is it profitable to sell railroads, maintaining the same list price as used for commercial firms—is a live one at this time. You suggest that railroads should be willing to pay more. We find railroads are close buyers and hard to sell.

Let us take a commodity or appliance that has merit proved beyond question, that is being largely sold to railroads and commercial firms as well and outline briefly the conditions of sale that maintain in practically every case. The salesman demonstrates his appliance to the official in the commercial house, proves that an economy can be effected

and lands the order. The concern, having branches in Chicago, St. Louis, Kansas City, Omaha and Denver, and the same class of work to do in each branch, of its own volition equips these branches with the appliance to its own benefit. There is cream in this transaction.

How with the railroads? The salesman demonstrates his appliance to the station agent, satisfies him of the advantages of his product and starts a requisition on its way first to division superintendent, then to general superintendent and so on up until he and it land in the purchasing department and each has to be sold. It is a long, long trail. Yes, he secures the order for Chicago station, installs his appliance, proves that it effects an economy, but there it stops.

The salesman claimed, and truly, that the same economy could be effected in St. Louis, Kansas City, Omaha and Denver and he was told to "go to it" and he did and—this picture is painted on facts—eventually landed them all, but there was no cream in this transaction. The time, effort and expense necessary eliminated all profits.

A representative of a reliable appliance house goes to the railroad feeling that he has a product that the railroad should be interested in. If he has, then the story is not a one-sided one, but of mutual interest. The purchasing of this commodity is not an expenditure but an investment paying a substantial return, and its use throughout the system should be furthered. Mechanical helps are being sought after today by all commercial concerns. The railroads can well seek for them too.

SUBSCRIBER.

Speeding Up Train Movement

ST. LOUIS.

TO THE EDITOR:

After reading the editorial "Speeding Up Train Movement," appearing in the *Railway Age* of September 30, I was prompted to prepare the following memorandum of certain other features of freight train performance:

The relation between the average speed and the average train load is very pronounced and my opinion is that it is more practical than theoretical. It is held generally by some that the gross train load is the first essential, to which I agree. There should not, however, be an overloading of trains and locomotives. In many instances, operating officers in their zeal to show heavier train loading, have gone beyond the economical limits but this is not equivalent to saying that they should permit locomotives to run over their train districts with less than their full economic rating.

Perhaps the speed per hour should be as near as possible to 12½ miles, to avoid excess expenses resulting from penalty overtime. Nevertheless tonnage should not be sacrificed for speed, nor speed for tonnage; admitting there is a difference between the possibilities on a low-grade line and on a heavy grade line. The economical speed at which certain types of locomotives may be run varies. On some freight districts a tonnage loading that would permit an average of 12½ miles an hour would mean uncertain operation on the up-grade side of the hill and unsafe speed on the down-grade side.

The length of trains handled also is an important item in the matter of time consumption. The speed of a train, however, is more frequently the result of train dispatching, passing and terminal track facilities, than it is, perhaps, of the tractive effort of locomotives used, but the train load is an influencing factor and one cannot be properly considered without the use of the other.

Increase in speed with a proportionate train load will increase the ton-miles per train hour to a point where the operation is most satisfactory and economical. The ton-miles per hour unit is influenced favorably by an increased train load or an increased speed, or in both, or an increase in

one factor proportionately more than a decrease in the other. On the other hand, a small decrease in the running time of a train will in many instances result in the loss of a car day at destination for each car in the train and frequently an aggregate loss of several car days; it also increases the per diem charges at intermediate stations, terminals and junctions.

The general rule is that the amount of fuel consumed per ton-mile is reduced as the engine load is increased to a certain reasonable limit. Solely on a ton-mile per hour basis a gradual gain in locomotive efficiency can be shown as speed increases from 25 to 30 miles an hour, but when the speed of a train averages more than 15 miles an hour, many factors other than ton-miles per hour affect the net economy. It is held that the modern locomotive attains its maximum fuel and thermal efficiency at speeds of not less than 12 miles an hour while working at 25 or 30 per cent cut-off. At lower speeds, high degree superheated steam is not obtained. Superheated steam locomotives are capable of higher sustained speeds than saturated steam locomotives capable of dragging the same train load.

The unit of measure is the "cost per ton per mile." Expenses directly chargeable to train service, aside from fuel and wages, include lubricants and locomotive and train supplies. These latter items are of less importance and the charges per ton-mile decrease as the utilized tractive effort increases.

The expenses of yard operation are seldom considered as being influenced by the character of train and/or the average running time between terminals. In hump yards the cost of switching is probably independent of the length of the train but in "flat" switching, the hauling of long cuts of cars reduces the speed of terminal switching and increases the cost. Enginehouse expenses likewise are affected. A reduction in the number of units handled will cause a decrease in the transportation cost per ton-mile. The subject is one which undoubtedly receives the attention of the officers of the individual railroads and what may be good practice on one road is not necessarily good practice on another.

My own thought is continually to force tonnage to the potential rating of the class of power in service, particularly in the direction of heavy traffic, increasing the average speed per hour by improved handling. This is the manner in which the most economical results are obtained, since the function is to move a given quantity of freight within a given number of hours and to produce the best results the happy medium must be found.

C. D. HICKS.

Side Lights Upon the Shop Strike Situation

CHICAGO, Ill.

TO THE EDITOR:

Those railway supply manufacturers who maintain staffs of experts in specialized work on the trunk lines have had quite as interesting a time, during the shop crafts' strike, as have some of the railway executives themselves. These experts are usually recruited from the ranks of railway supervisory forces and frequently belong or have belonged to one of the striking craft unions. Normally they merely instruct in the work concerned but just now there frequently is nobody to instruct and the work is there to be done just the same. In most cases the work is done, and better than ever before, to the credit of these experts and their employing companies. Those systems which heretofore have discouraged the use of experts on their lines have had to contend with embarrassments without this type of efficient assistance.

* * * * *

It is interesting to note what surprising results a few loyal master mechanics have obtained in getting terminal

work done on the power. Job after job has been tackled, with only the master mechanic and possibly a foreman to help, with satisfactory results in a half or a quarter of the time usually allowed in normal operation.

One illustration is in mind: In replacing certain spring hangers on a certain class of engines, it has been customary for the machinists' gang to have other craftsmen called upon to drop the ashpan before the job was started and then to replace it after the job was completed. It was found perfectly possible to do the job without these several hours of additional work.

Another illustration: The matter of hydrostatic tests required by the Interstate Commerce Boiler Inspection Law has always been considered quite a formal proceeding. When, after these jobs had been allowed to accumulate, owing to inevitable disorganization, due to the strike, in the press of work of greater emergency, attention was given this detail, it was amazing to note the rapidity with which numbers of such tests were run, without sacrificing thoroughness to any degree whatever.

* * * * *

Several railways called in ticket clerks and other traffic employees for engine house assistance. Some of these men have come from "off-line" offices, and some of them had never even seen those parts of their own lines to which they were sent. They are receiving an education in practical operation, the like of which they could have obtained in no other manner.

Incidentally, these traffic men, clerks, solicitors, etc., become the best kind of terminal labor in a surprisingly short time. Of course, they are instructed in one specialized job after another as occasion arises and rapidly become proficient in each. With uncomplaining willingness they turn their hands and brains to any job which arises as fast as they receive instruction, and this spirit results in large amounts of work being done with a minimum of forces.

Loyal foremen, at outlying shop and engine terminal points, have quite the most unenviable positions imaginable. While they are, by the rules of their own crafts, exempted from strike call, the fact that their loyalty calls for actual work in maintaining operation subjects them to all manner of personal embarrassment and insult. These men deserve any reward it is possible to accord them. They seek no reward, however.

The position of the honest shopmen of long service is pitiable. They may not have wished to strike but their circumstance compelled it. It was not in the cards that they should win anything and many of them realized it, yet they had to go with the majority, their actions being controlled by those of radical tendencies. Whether they know it, their greatest gain is in the loss of the strike. By losing in a sense they win. They will be removed from the influence of discredited and radical leaders.

Greatest prosperity for the shopmen, notwithstanding the slight wage reductions, comes with greatest prosperity for the railways. By elimination of disturbers, non-conformists, and radicals as a result of the strike, the efficiency of the shop forces will mount and the position of the efficient workers taken back will be correspondingly improved.

Lumping the work of the poorest with that of the best, as has been the practice for several years, tends to discourage all but the most inherently loyal. The weakening of such a yoke cannot but have beneficial effect upon the individual.

L. F. W.

J. W. KROELL of Chicago was appointed president of the International Order of Railway Yardmasters on October 10, to fill the vacancy caused by the recent death of President F. W. Whelan. The appointment was made by the board of directors of the above organization.



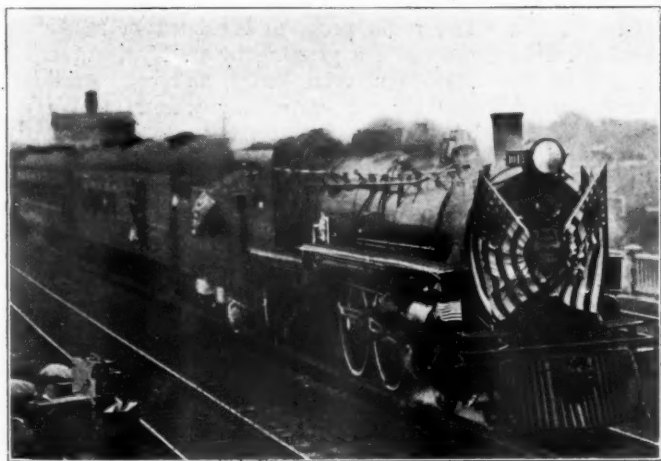
Employees Greeting Special Train at 47th Street, Chicago—Photo from Underwood & Underwood

Rock Island Celebrates Seventieth Anniversary

Display of Enthusiasm Shown as Featured Program is Presented
at Both Chicago and Joliet

ON TUESDAY, October 10, the Chicago, Rock Island & Pacific celebrated the seventieth anniversary of its founding, the day being observed over the entire system. The most elaborate ceremonies, however, were held in Chicago and Joliet, Ill., the first terminals of that carrier between which the first Rock Island train's inauguration run occurred on that date in 1852. The LaSalle Street Station, Chicago, was decorated for the occasion with American flags

R. McGann by Charles Hayden, chairman of the board of directors. Adding color to the occasion were a number of young women dressed in the costume of 1852. The presentation was made on the platform of the station near the rear of a special train which was to carry the officers and guests of



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Rock Island Special Enroute Chicago to Joliet

and numerous posters were displayed describing various features of the slogan "Seventy Years of Service." The first sleeping car used by that road was placed on exhibition in the station next to a modern Pullman in order that the public might compare the new with the old type.

The opening incident of the day in Chicago was the presentation of a "half century of service" medal to Engineer J.



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The Unveiling of the Reed Monument by Miss Anna Reed Bates, Great-Granddaughter of Samuel Benedict Reed

the road to Joliet for the ensuing anniversary ceremonies. When Engineer McGann had received his medal, Chairman Hayden, clad in the blue overalls of an engineer, took the throttle and guided the special train toward Joliet reenacting

the first run. The engine and observation platform were both decorated with small American flags and red, white and blue bunting, and the train crew was made up of a number of the oldest employees. The conductor, J. Arzener, had seen 40 years of service; the brakeman, J. J. Conlon, 34 years; E. Faust, engineer, 39 years; and E. Wirthmiller, fireman, 41 years. At Blue Island, 49th street, Englewood, Hamilton Park, 124th street, and other districts and towns the employees were on hand to greet the train with cheers and the waving of flags and hats.

On arrival at Joliet, city officials received the visitors, together with 5,000 school children. Escorted by a band between lines of the R. O. T. C. of the Joliet high school cadet corps, the officers, and guests of the railroad proceeded to the courthouse lawn, where the boulder monument to Samuel Benedict Reed, civil engineer, who surveyed the original "Rock Island Line" in 1850, stands. This monument was erected by the Union Pacific, of which Mr. Reed was later superintendent of construction. A bronze tablet was placed on the boulder by relatives of the engineer, and Anna Reed Bates, his great-grand-daughter, unveiled the monument.

Addresses were delivered by Mayor A. C. Jeffrey of Joliet, Col. Fred Bennett, son-in-law of Mr. Reed; Charles Hay-

Bell, vice-president and general counsel; Carl Nyquist, vice-president, and Judge Jacob M. Dickinson. T. H. Beacom, vice-president, was the master of ceremonies. At the close of the speaking program, Chairman Hayden presented, in behalf of the board of directors, a bronze medal to each of the pensioned employees who had or have been with the road for 50 years or more. The response in behalf of the pensioned employees was made by T. Knight of Forth Worth, Tex., a pensioned locomotive engineer.

In the evening the celebration closed with a radio program, broadcasted from the Westinghouse K. Y. W. station,



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Rock Island Officers and Guests at Joliet Being Escorted to Court House



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President J. E. Gorman and Guest of Honor, Mrs. W. W. Stevens, Who Was Passenger on First Train in 1852

den, chairman of the board of directors, and James E. Gorman, president of the Rock Island.

Following the ceremonies at the monument a tree was planted in the courthouse lawn, on the former right-of-way of the Rock Island road. The Joliet Association of Commerce then played host to part of the visitors and at a luncheon given by this body, an address was delivered by L. M. Allen, vice-president. The main portion of the party returned to Chicago for a luncheon at the Drake hotel, at which addresses were made by Mr. Gorman, Mr. Hayden, M. L.

Chicago. Employees' clubs in other localities "listened in" on the program as did commercial clubs in many "Rock Island" cities. The radio program consisted of music by the Rock Island orchestra, a greeting by C. Nyquist, songs, an address by C. Hayden, more songs, and orchestrations. The guest of honor for the entire day was Mrs. W. W. Stevens of Hubbard Woods, Ill., a passenger of the "first train" in 1852.

In addresses during the day of celebration both Mr. Hayden and Mr. Gorman made pleas for public co-operation. Mr. Hayden said in part:

"You can not expect to be served by the perfection of transportation, unless you are willing to co-operate. If the war has taught us anything with reference to the internal affairs of this country, it is that the railroads must be built up, aided and encouraged by legislation, rather than harassed and beaten down. I insist that you and I as citizens of this great country must take an active part in seeing that future lawmaking and future regulations of our railroads shall be constructive and not destructive."

While Mr. Gorman said:

"We realize and face our responsibilities, but they are not ours alone. We need each other's help and friendly consideration. Any other relationship is to our common detriment. It is our ambition to establish and maintain such a relationship. We seek a release from super-regulation which stifles initiative and hampers prompt adjustments necessary to business emergencies. We welcome supervision and constructive criticism. We want you to come to us with your problems and seriously consider ours and aid in their solution."

Railway Real Estate Association Meets in Chicago

Discusses I. C. C. Valuation, Taxation, Land Purchase, Leases and Other Important Related Subjects

THE FOURTH ANNUAL meeting of the Railway Real Estate Association was held in Chicago October 10-12, inclusive. The program consisted of a series of individual papers on subjects related to land, taxation and other matters naturally coming under the direction of the real estate offices. The sessions were presided over by President J. T. Maher, right-of-way, land and tax commissioner, Great Northern. Mr. Maher also took part in the program, with a paper describing the activities of his department on the Great Northern.

J. T. Maher was re-elected president for the coming year. He had served in that capacity during only a part of the past year, succeeding to the office due to the resignation of his predecessor. Other officers elected were: First vice-president, O. F. Scudder, land and industrial commissioner, Chicago, Burlington & Quincy; second vice-president, P. McPherson, right-of-way and tax agent, Canadian Pacific; and secretary and treasurer, R. H. Morrison, assistant engineer, Chesapeake & Ohio. The next meeting will also be held in Chicago, beginning the second Tuesday of October, 1923. Abstracts of the reports follow:

How to Buy Right-of-Way

By O. F. Scudder,

Land and Industrial Commissioner, Chicago, Burlington & Quincy.

In the case of any extensive purchase in the larger towns or cities, it is always an advantage to make these under cover as far as possible, and it very frequently happens that the broker can get his commission from the owner of the property, which works a considerable saving, also. Unless the property to be obtained is too great in extent, the project generally can be carried through to the end without the purpose for which it is being assembled becoming known outside. At any event, results can be secured in the way of establishing a price basis, which is a great advantage if it becomes necessary to condemn. In working through outside agencies, I have always found it a good plan, in the first instance, to get the broker committed to an estimated cost or value of any property you desire him to secure, and have it understood that he is to work practically to that basis and not exceed such estimate without first getting approval. This will tend to hold your man at a conservative figure and he will not, in his eagerness to earn commissions, close on too liberal figures.

It is always an advantage to the right-of-way agent, before approaching the land owners to negotiate purchase, to inform himself as fully as possible of the plans of construction and use to which the property is to be put, especially in the case of any extensive right-of-way purchase for strictly new development, covering particularly the provisions for drainage and crossings, both public and private. If you are informed that at a certain point a very expensive crossing or other facility has been planned for the use of the land owner, it very frequently happens that a great saving in construction cost can be obtained by judicious purchase of land, or in making a cash settlement for waiver of crossings, etc., at considerably less than the engineering estimates.

Our investigation in connection with compiling returns to the Interstate Commerce Commission under the several valuation orders pertaining to Lands Held and Used for the Purposes of a Common Carrier, and for Lands Held and

Used for Other Purposes Than Those of a Common Carrier, has developed that numerous transactions in the past, containing elements of severance damages, and damages to property taken, have been erroneously handled in our accounting. In order to obviate this and make sure that the full cost of all land purchased for transportation purposes is written into our capital account, we are now requiring the right-of-way agent to itemize all elements of damage entering into the settlement for every parcel purchased.

Railroad Insurance and Fire Prevention

By C. N. Rambo,

Manager of the Railroad Insurance Association.

Railroads vary in their methods of procuring indemnity against various kinds of loss. Some few railroads carry their own risks in part. In the main, however, they place their risks and liabilities with insurance companies, in some cases not insuring as generally as in others. When we speak of railroad insurance we cannot necessarily confine it to fire insurance. The general indemnities secured are those against loss by fire, general marine perils and disasters, damage and liability due to boiler explosions, and bonding of employees.

The insurance has to be handled on a wholesale basis. A general schedule of properties is prepared, with each property listed and valued, with its contents. These items may be located in many states, but instead of each unit of risk being written under an individual policy, requiring thousands of policies, a policy is issued covering the property in each state, and issued under the insurance requirements of that state.

It must be observed that in insuring the contents of cars, stations, freight terminals, etc., the cover is on the common carriers' liability as prescribed by the standard or uniform bill of lading, for property of others being transported and in the custody of the railroad. It covers also any warehousemen's liability. Aside from the cars and locomotives owned by the railroad insured, insurance is issued on the liability of the railroad for cars of other railroads passing over its lines in the necessary interchange of traffic.

Individual values are insured under railroad property schedules, i.e., a specific amount of insurance is placed upon each building, as well as on its contents, and a specific amount of insurance is placed upon each unit of rolling stock and a specific limit of liability is placed on the contents of each car, under common carriers' liability, as well as a limit of liability thereon in any one fire. Depreciated values of rolling equipment are usually insured. The process of insuring structures varies—but a satisfactory rule and average has been to insure 70 per cent or 80 per cent of value.

We cannot consider the matter of fire insurance without bringing in the collateral feature of fire prevention. If any proof of the necessity for giving fire prevention the consideration it deserves is required, we need only look to the contribution made last year to the national ash heap—\$485,000,000. This large annual loss has only been exceeded once, in 1906, the year of the San Francisco conflagration. The present burning rate of \$923 a minute constitutes one of the heaviest drags on our economic progress. During the year, 1918, 419 roads reported 20,628 fires, with a property loss of \$12,263,220. This represented about four per cent of the total estimated loss of the country on all

properties for that year and it meant to the railroads an average loss of approximately \$594.50 for each fire, or about \$50 per mile of railroad. Certain of these fires damaged property outside the right-of-way resulting in a source of large claims against the railroads, but one to a very small extent insured. Of the total number of fires mentioned, 9,923 or 62.7 per cent were assumed to have been caused by sparks from locomotives.

Methods of Assessing Railroad Property for Taxation

By N. P. Haugen,

Formerly Chairman of the Wisconsin Tax Commission.

With the constant increase in public expenditures—federal, state and local—taxation has become the subject of much discussion, contention and dispute. The popular demand has increased for better roads, more efficient schools and more of them, better sanitary conditions, police protection, pension funds, bonuses, etc., and taxes are likely to keep on increasing for a time at least. In this increased public burden, railroads have no doubt in most of the states borne at least their full share, nor have they been reluctant or unwilling to take their part, if properly apportioned and equalized. Railroad property is so obviously in sight that it cannot escape the attention of the assessing officials.

Two general methods have prevailed for the taxation of railroads: one the gross earnings or license tax; the other, the advalorem tax. The tendency during the last 20 years has been to replace the former with the latter. The gross earnings tax has the merit of being simple in administration but it does not readily respond to the varying rates of taxation on other property and is therefore likely to violate the rule of uniformity generally prescribed in state constitutions. It is also likely to become the shuttlecock of politics as a change in rate can as a rule be authorized only by the legislative body.

The basis of assessment of railway property within a state is its "value," and many cases dealing with the subject of taxation show how the courts have defined "value" and the methods for ascertaining it. The result may be summarized by saying that "value" depends upon the extent and profitableness of the use of the property; that is, upon its net earnings. The courts have also repeatedly held that cost of reproduction is not "value" for taxation purposes. It is properly used for rate-making purposes but does not necessarily represent "value" as that term is used by the courts.

In assessing railway property it is, of course, the operated property only which is considered, and this presents a difficulty in using the stocks and bonds as the basis of value. Where proper elimination of outside holdings can be made, the stock and bond values of railroads averaged over a period of five years seems to correspond most closely to that full and true value which the assessment laws generally prescribe. It is well, however, to consider other methods for comparison purposes as they serve the assessor in verifying his approach at true value, and in this respect net earnings undoubtedly afford the best test.

Having arrived at the value of the system, the next step is to allocate such value to the different states into which the property extends. No absolutely precise method can be prescribed. One of the most important and also the most difficult of the problems presented in the assessment of railroads is to reach a fair adjustment for taxation purposes between railroads and other property of the state. Assessments can never be absolutely perfect. Judgments will differ, and valuation is largely a matter of judgment, but the public does have a right to insist that the officials exercise their best judgment in arriving at true value for public purposes.

Government Valuation as a Factor in Condemnations

By W. R. Tarbet,

Real Estate Agent, Illinois Central.

Intelligent and honest officials advised as to how and when and for what purpose the government's appraisals were made would not, in my opinion, give them any weight. When the case is on trial before a jury the court should not permit the introduction of the government's figures as evidence, because the government has not promulgated any plan for keeping land valuation up to date, although the act requires it to do so and to report to each Congress figures revised to date. Only an "informal" report on land value has as yet been made to us. Sometime in the future we may get a "tentative" report and eventually perhaps a "final" report. By that time the figures will probably be so out of date as to be utterly worthless for any purpose whatever.

Railroad value cannot be found by trying to fix a "value" on the land, the right-of-way, shop, yard and station ground, and adding to that a "value" of ties, rails, fills, cuts, bridges, buildings and rolling stock. Nobody can determine separate values of the component parts of a railroad, and then add them to get at the value of the carrier. There is no such thing as a "physical valuation" of a railroad until it is defunct; then it is a junk value. The taxable value of that part of a railroad system lying within any state cannot generally be found by capitalizing the net earnings in that state, or the average net for a period of years, because it is impossible to determine the net in most states, due to the prevailing practice of not distributing gross revenue and operating expense consistently with each other. Especially is this true as to the heavy terminal expenses.

The best way to get at the taxable value of a railroad system that generally has a fair net income is to combine the current stock and bond market value (less the value of all non-operative assets) with the value found by capitalizing the average net income for any five years last past. This system value can best be apportioned to the several states on a composite basis found from factors reflecting relative railroad activities, revenue, and investment.

Rental on Leased Railroad Lands

By J. L. Watson,

Right-of-Way Commissioner, Northern Pacific.

The purpose for which railroad lands should be leased, and by railroad lands I mean right-of-way and station grounds available for leasing purposes and the land acquired and held for railroad and industrial purposes, is to furnish sites for the convenient transaction of business to industries requiring trackage, and to create and control traffic for the railway company. The granting of leases on the right-of-way and station grounds will, in many cases, permit the prompt loading and unloading of cars and avoid delay which might otherwise ensue. In the grain growing sections it is more economical to have the grain warehouses and elevators located on the right-of-way, where switching can be done more conveniently and more economically than would be the case if such industries were located some distance off the right-of-way and served by a spur track.

Long term leases should contain a provision for rental adjustment at stated intervals. A good plan is to make such adjustment at intervals of five years with a provision for arbitration if the railway company and the lessee cannot agree upon the rental. In purchasing right-of-way sometimes it is necessary to acquire surplus property which is not needed for railroad purposes and which cannot be served to advantage with trackage and is perhaps of little value for indus-

trial purposes. In such cases it is best to sell the property if possible, but if it cannot be sold, or if the carrier is not anxious to sell it and can lease it for any legitimate purpose, I think it is justified in doing so for whatever rental can be obtained.

DISCUSSION

The discussion on this paper was led by J. C. Williams, assistant real estate agent of the Chicago, Milwaukee & St. Paul, who stated: "Land, or railroad right-of-way and station grounds, represents approximately 20 per cent of the total investment. Approximately 80 per cent of this is in towns and cities, as rural right-of-way is negligible so far as leasing is concerned; 65 per cent of this 80 per cent is taken up by tracks, depots, etc., and approximately 25 per cent of the remainder is necessary for future expansion, but due to location cannot ordinarily be leased. Approximately ten per cent of the remainder is neither necessary for future use nor can be leased to advantage and should be sold. The rest can and should be leased, and the guide to follow is 'Lease to the industry which gives rental plus transportation revenue a maximum.' Considering the present value of money and the usual rates of interest, six per cent of the value of the property, basing the value on the use to be made of it by the industry, is not excessive."

Relation of Federal Valuation of Railroads to Taxation of Railroad Property

By A. J. Rooney,
Tax Commissioner, Chesapeake & Ohio.

Taxation for federal government purposes must be indirect, as Congress has not the authority to levy a tax directly on the property of anyone. The most efficient form of indirect taxation was and probably still is that provided by the tariff laws, but in more recent years Congress provided, primarily, for a levy of one per cent upon the income of business corporations, followed by the capital stock tax law and the general income tax law, which latter, in turn, was superseded and augmented by the "War Revenue Act of 1917," later modified. The ad valorem basis of taxation, as applied under authority of the general property tax law, requires a complete valuation of all property at stated intervals. Under the ad valorem system, the total valuation and the total amount of revenue needed determines the tax rate. The valuation of this property and the tax rate, determine the amount of taxes the taxpayer must pay. When all property is listed for taxation at full value, the tax rate, all other conditions remaining unchanged, will be as low as it can be made. The just ad valorem taxation of railroads requires the just ad valorem taxation of all property.

The valuation to be placed on the property of a railroad, or any other "going concern," for the purpose of taxation, depends upon the "profitableness of its use." Such a concern might be entitled to earn a reasonable return upon a valuation of five million dollars, but, if, by reason of the rates prescribed, or the stress of untoward circumstances, it actually earns a reasonable return on only half that amount, then its valuation for the purpose of taxation would be correspondingly reduced—the low earnings being at once reflected in the "price value" or "market value" of its securities. In many of the states, the statutes prescribe that, in assessing the railroads, the earnings shall be "considered" and even in those states which provide for the valuation of physical property separately from the franchise, the earning power of the lines is given more consideration, for without such consideration no intelligent assessment can be made.

Public opinion is a large factor in determining how the railways shall be treated. Developments of the last few years have done much towards causing the public to look

upon the railways with a different perspective. They recognize the importance of the railways to their own very existence. The history of the railways is linked with the history of the nation.

The public is interested more in rapid and safe transportation—ample and good railway service—than in cheap transportation or high taxation. There are large areas of land in the United States yet awaiting the coming of the railways for their development, but if the railways already existing are stultified, the capital necessary for their extension will not be forthcoming.

Other Papers

A paper, "Can the Multiple Studies Made in Connection with Federal Valuation Be Used as a Basis of Determining Cost of Acquiring Lands for Railroad Purposes," was read by W. R. Van Campen, land attorney, Presidents Conference Committee. He was inclined to discount the multiple studies as being of service in estimating individual land purchases or a limited number of such purchases. He said that past experiences will be of assistance in estimating new extensive land purchases and would be somewhat of a guide to the less experienced right-of-way agents. The multiple studies can be used, however, he said, in estimating present cost of acquisition for valuation purposes.

E. D. Anthony, assistant real estate and tax agent, Delaware & Hudson, presented the paper, "Crossings and Use of Railroad Land by Telephone, Telegraph and Other Public Service Companies." He said that the prime factors of the case are: first, the protection of the right-of-way and interest of the carriers in their property; second, the safeguarding of the lives of their employees and third, a regard for the welfare of the general public. His discussion concerned each factor individually. Judge R. V. Fletcher, general solicitor of the Illinois Central, representing the Association of Railway Executives, addressed the convention on the general railway situation.

Labor Board Gives Maintenance Men an Increase of Two Cents an Hour

AN INCREASE of two cents an hour for approximately 452,000 members of the United Brotherhood of Maintenance of Way Employees and Railway Shop Laborers was ordered by the Railroad Labor Board in a decision handed down on October 14. Increases were given to four of the nine classes of maintenance-of-way employees enumerated in the board's last wage decision affecting these workers. Section, track and maintenance foremen and assistant foremen, track laborers, and other common laborers in the maintenance-of-way department and in and around shops and roundhouses, drawbridge tenders and assistants, pile driver, ditching and hoisting firemen, pumper engineers and pumpers, crossing watchmen or flagmen, and lamp lighters and tenders, received the two-cent an hour increase. At the same time the board decided that the present conditions did not justify an increase for the following classes of employees: Bridge, building, painter, construction, mason and concrete, water-supply and plumber foremen, and assistant foremen, coal wharf, coal chute and fence-gang foremen, pile driver, ditching and hoisting engineers, bridge inspectors, and mechanics in the maintenance-of-way and bridge-and-building departments, and their helpers.

According to the board the increase applies to 451,911 maintenance-of-way employees and will add approximately \$22,125,000 to the railroads' annual payroll. The board's latest ruling will place the minimum rate of pay for maintenance-of-way workers at from 25 to 37 cents an hour, the board estimating that 45 per cent of the men will receive

37 cents an hour or more, that 40 per cent will receive more than 30 cents an hour and that only about 5 per cent will receive less than 30 cents an hour.

Ben W. Hooper, chairman of the board, declared that the decision was made because of the definite upward trend of wages in other lines of industry, particularly the wages of common labor. There was no pronounced increase in the cost of living, he said.

"The board does not feel that it is receding from its decision of last spring as at that time the wage increase ordered was just and reasonable," he said. "The reason and issues leading to the present increase will be fully set out when the official decision is handed down."

The board's decision has been held up for more than 10 days because of the failure of the board members to reach an agreement, as pointed out in last week's *Railway Age*. The labor members of the board were holding out for an increase of more than two cents; the public representatives were urging the two-cent an hour advance, and the railroad representatives were demanding that no increases be granted. The deadlock was finally broken when the proposition of an advance of two cents an hour was approved by the three public members, Samuel Higgins, a member of the railroad group, and W. L. McMenimen, a member of the labor group. A. O. Wharton, another member of the labor group, and one railroad representative voted against the increase and the third railroad representative was not present.

The board's ruling follows closely on the defeat of E. F. Grable, candidate for re-election as grand president of the United Brotherhood of Maintenance of Way Employees and Railway Shop Laborers, and the announcement by his successor, F. H. Fljoldal, that a new demand "for improved working conditions and a living wage" would be made upon the board. Mr. Grable was defeated by more than 3,000 votes out of a total of approximately 86,000. The election was held the day previous to the announcement of the board's decision.

Prior to his defeat, Mr. Grable telegraphed a protest to Mr. McMenimen against the proposed two cent an hour increase. Mr. Grable requested a quick decision on the requests of the maintenance men and stated that unless a larger increase than two cents an hour was granted "loyal members may adopt extreme tactics fostered by questionable leaders to remedy their grievance." Following the board's announcement Mr. Grable is quoted as stating that the increase undoubtedly would be accepted by the organization as "temporary relief."

Association of Passenger Traffic Officers Meets

THE SIXTY-SIXTH ANNUAL convention of the American Association of Passenger Traffic Officers met in Louisville, Ky., on October 10-11. While a large part of the meeting was concerned with routine business and the presentation of reports of regular standing committees, considerable time was given to the discussion of subjects of timely interest. Among these may be mentioned the problems now confronting the railroads as a consequence of the motor truck competition, and the recent development of gasoline motor rail cars. The following is a resume of the principal subjects discussed at the meeting. (1) Summer tourist fares: Is a uniform basis throughout the United States desirable and practicable? (2) Motor buses: Effect on passenger traffic. Should motor bus companies and individuals operating motor buses be subject to the same regulations and taxes as railroads? (3) Economies in construction of joint passenger tariffs. (4) Inter-territorial clergy arrangements. (5) Anti-scalping bill. (6) Uniform

rules and practices for refund on tickets at stations. (7) Gasoline motor cars. (8) Construction of new hard roads paralleling steam lines.

It was suggested during the course of the reports and discussions that tickets sold prior to date of use be endorsed with both date of sale and date good for passage; that an earnest effort should be made to devise some means by which the ticket agents may clearly indicate on the coupon of each interline ticket sold for advance use, the date on which such ticket was sold and the date on which it will be valid for passage, such information saving an extraordinary amount of correspondence between accounting departments; that transfer charges be published in the Official Guide for information of ticket agents and be shown in tariffs regularly published and filed with the Interstate Commerce Commission, and that there be earlier promulgation of bases for division of tourist and other special fares.

It was also contended that the multi-route ticket is simple and so practical that it can be correctly issued by agents and with a saving of time over the single route ticket, but that the multi-junction ticket is somewhat complicated and likely to cause trouble and annoyance to holders; that whereas the present digest includes only divisions, mileages and transfers, that until some different action is taken by this association, the digest continue to be so restricted that at the earliest convenient date it may be republished in standard tariff size of 8½ in. by 11 in; that a rate expert from each territory be directed to arrange for the preparation and publication in suitable form of a digest of passenger fares for such lines as indicate their desire to participate in such a publication. It was further suggested that it was desirable to publish schedules of mixed freight and passenger trains, especially in view of automobile competition; discussion developed that there is no objection to the publication of such service in the Official Guide; that earlier consideration should be given summer tourist fares than has been the practice heretofore, thus affording needed time in which to determine the construction bases and carefully to prepare and check tariffs and file them on statutory notice and also enable the issuance of advertising matter in the winter and early spring months when many people are planning their summer vacations.

There was some discussion of the desirability of economy in the compilation of passenger tariffs through the elimination of unimportant headline points and destinations, the elimination of inactive and circuitous routes, etc., and the desirability of uniformity and standardization in tariff regulations. While it was felt it would be desirable to have uniform regulations to govern redemption of tickets at stations, for example, as to the period of time within which a wholly unused ticket may be redeemed by the ticket agent, it was concluded that the establishment of uniform rules is impracticable owing to different laws effective in the various states. The influence of the gasoline propelled motor car on passenger traffic and its adaptability to certain traffic conditions were discussed at some length.

The officers elected for the ensuing year are as follows: President, A. B. Smith, passenger traffic manager, Northern Pacific; vice-president, C. B. Ryan, passenger traffic manager, Seaboard Air Line; secretary, W. C. Hope, passenger traffic manager, Central Railroad of New Jersey. The executive committee consists of W. B. Calloway, chairman; M. L. Harris, E. P. Cockrell, W. H. Black, the president, vice-president and secretary. The convention was followed by a short business session of the Fraternal Society.

FOR ATTEMPTING TO WRECK Lackawanna and Delaware & Hudson trains three youths at Scranton, Pa., were recently sentenced to eight to ten years' solitary confinement. The motive for their action was said to be revenge against the Delaware & Hudson for alleged injuries sustained by one of them.

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on less than two-minute headway, the average for the full period of service from 3:30 a. m. to 12:45 a. m., being a train every 7.5 min. The Illinois Central made a special effort to serve the public during the strike on the Chicago surface lines from September 1 to 6, 1922, during which period a record traffic of 157,517 passengers was handled in a single day. So many of these people have continued to use the Illinois Central that it has been necessary to add 10 trains to handle the business to the best advantage. The schedule at this time calls for 370 trains each week-day with six or seven coaches in a train during the rush hours, and shorter trains at other times throughout the day. The loading and unloading of passengers is expedited considerably by elevating the station platforms at all suburban tracks level with the car platforms.

One factor that has contributed to the success of the Illinois Central suburban service is the separation of the express and local runs between Van Buren street and Hyde Park (Fifty-third street). The express trains make this run of 5.5 miles in 11 minutes while the local trains, making more intermediate stops, require from 18 to 23 min. The express trains to South Chicago make eight stops, covering the run of 13 miles in a minimum of 35 min. The minimum running time to Matteson, a distance of 29 miles, including eight stops is 59 min.; and to Blue Island, 18.5 miles, including eight stops, the minimum running time is 45 min.

These schedules can be shortened by a higher acceleration rate, with the same running speed. A detailed study of the speeds of over 800 trains showed that 50 m.p.h. was the approximate maximum speed of the present steam equipment. While higher speeds were contemplated at first on the new work, estimates showed that added investment in equipment and the greater operating cost that would be required were out of proportion to the benefits derived. It was decided, therefore, to fix the balanced speed of the new electric equipment at 50 m.p.h. and provide an acceleration under load of 1.5 m.p.h. per sec. and a braking rate of 1.75 m.p.h. per sec. In other words, while the new equipment may not have a greater maximum speed than some of the present steam trains, it will start so much quicker that the trains will make the runs in considerably less time.

Switching Area Important Consideration

The electrification will include the extensive freight house and track layout just south of the Chicago river and extending south to East Roosevelt Road, which, including the additional electrified tracks just south of East Roosevelt Road, aggregates 40 miles of tracks, most of which are yard tracks. The switching service on all of the industry tracks in the terminal within the city limits will also be handled electrically.

Part of the Fordham yard at Burnside and part of the Wildwood yard south of Kensington are to be included in the electrification. At Markham yard (the general classification yard which is not yet completed) all of the southbound receiving yard as well as enough of the northbound departure yard will be electrified to permit the picking up of northbound trains. Inspection facilities for electric locomotives will be located at Markham yard and also at a point in the neighborhood of Twenty-sixth street.

Freight Yard North of Randolph Street

The ordinance concerning the project provides that nothing in the terms shall prevent other roads not electrically operated from entering the tracks of the Illinois Central south of East Roosevelt Road with steam locomotives for the purpose of interchange, or to prevent the Illinois Central from using steam locomotives for the similar interchange of business to and from other lines not electrified until such time as these roads are required to electrify.

The extensive track layout between Randolph street and

the Chicago river is located close to the great loop district of Chicago. Freight houses of the Illinois Central, the Michigan Central and the Cleveland, Cincinnati, Chicago & St. Louis are located in this area. Large coal yards and warehouses of private concerns are also served in this yard. The short haul of coal, fruit, and general merchandise from this yard to the main wholesale and retail districts offers a decided advantage. Ground in this territory is very valuable and as the present tracks and freight houses cover almost all of the Illinois Central property there is not much room for further development under steam operation. However, with the introduction of electric propulsion it will be possible to house over many of these tracks with vast freight houses, cold storage warehouses for fruit, etc.

Freight Train Movements

As soon as the Markham yard is completed the main line steam freight service will terminate at this point. Therefore, there will be many through transfer trains to be handled electrically between Markham yard and the Randolph street freight houses. Berry trains, banana specials, etc., will be handled through to Randolph street intact. As high as 500 cars for the Illinois Central and 200 cars for the Michigan Central have been handled into and out of Randolph street in one day.

Transfer trains will also be made up in Markham yard for delivery to other roads. In addition to the traffic of the Illinois Central that of the Michigan Central and the Big Four must be handled electrically over the terminal territory.

A large amount of track changes, depression and elevation are to be carried out before the actual construction of the electrification can be started. These consist principally of the depression of the tracks between Twenty-fifth street and Forty-fifth street and their elevation between Forty-fourth street and Fifty-first street. In the rearrangement of tracks some industry tracks will be located on the extreme west side of the right of way next to which all of the suburban tracks will be consolidated. The through passenger tracks will be just east of the suburban tracks and the freight tracks on the east side of the right of way. At certain places industry tracks will be served from the east side also.

Electrification to Meet Traffic Requirements

A commission was appointed in December, 1920, to make a thorough investigation of the different systems of electrification available. Practically all of the installations in the United States to date have been made to meet special operating problems in tunnels or on grades. The New York Central tracks in New York were electrified primarily to eliminate the smoke in the Park Avenue tunnel and the electrification covers through and suburban passenger service. This is a low-voltage direct current system with a third rail. The Norfolk & Western 11,000-volt single-phase alternating current electrification is principally for heavy freight service over mountain grades; it uses overhead contact wire. The New York, New Haven & Hartford uses an 11,000-volt single-phase alternating current system and is the only example of an electrification which handles through freight, switching, through passenger and heavy suburban passenger service. However, this installation extends to New Haven, a distance of 72 miles. An overhead contact wire is used in this installation. The Chicago, Milwaukee & St. Paul installation is a 3,000-volt direct current system with an overhead contact and handles through passenger and freight, but does not have a dense traffic or suburban services.

Three possible schemes were eliminated early in the study. On account of the extensive yards involved, a search was made for some sort of a self-contained power unit. The storage battery locomotive had to be eliminated on account of the seemingly prohibitive operating charges. A locomotive

tive embodying some form of the Diesel engine may be developed for freight and through passenger service but a unit of this sort has not yet been built to meet the requirements of the present project. The three-phase alternating current system, which requires a double overhead contact system, was eliminated from consideration on account of the complications in construction of the overhead system without any advantages over the single phase.

Complete estimates of first cost, maintenance and operation were then compiled for the four remaining systems (i.e.) (1) 750-volt direct current with third rail; (2) 1,500-volt direct current with overhead contact; (3) 3,000-volt direct current with overhead contact; and (4) 11,000-volt alternating direct current with overhead contact.

The 750-d.c. system was eliminated because of the extensive freight yard trackage involved where a third-rail was undesirable from a safety standpoint and also on account of the fact that this system would require a heavy and extensive overhead layout to provide continuous contact for switching locomotives on ladder tracks and in complicated yards. Considering the climatic conditions along the lake front it was also feared that snow would drift on the tracks in the depression to such an extent as to interfere with the operation of the third-rail. Moreover, the cost of the 750-volt system did not differ materially from that of some of the other systems considered.

The 3,000-volt d.c. system has not been thoroughly developed for multiple unit operation and its use on the multiple unit system required additional complications not met with in the other systems considered. In converting the high voltage alternating current from the generating station into direct current for a 3,000-volt d.c. system it would be necessary to use motor generators which are more expensive and less efficient than synchronous converters which may be used on a 1,500-volt system. Due also to other causes the first cost and annual cost estimates were higher on the 3,000-volt d.c. system.

The investigation, therefore, narrowed down to the 1,500-volt d.c. and the 11,000-volt single phase a.c. systems. Although satisfactory means of eliminating the inductive interference of an a.c. system with the telegraph and telephone circuits have been devised it was the opinion of the majority of the commission that the experimentation and the expense involved would be appreciable. At this point consideration was given to the fact that a growth of traffic in the terminal would require more rolling equipment rather than more track mileage and that there was no immediate prospect of the system being extended to adjacent main line divisions. With this idea in mind it was considered that 1,500-volt d.c. equipment, with its lower first cost, was better adapted to the future development of this particular project. In the final analysis between the 11,000-volt a.c. single phase and the 1,500-d.c. systems it was decided to adopt the latter.

Suburban Equipment

The electrified suburban trains are to be made up of new all-steel coaches equipped with motors and connections for multiple unit control. Controllers will be located at each end of every car, thus eliminating the switching or turning of any equipment at terminals. None of the old coaches now in service are to be used.

In October, 1921, the Illinois Central placed in service 20 new all-steel suburban coaches which are now operated with steam but in which provisions were made for the electrical equipment to be installed later. These new cars have a seating capacity of 84 persons. Therefore, better service can be given with fewer cars than are now used as the old coaches seat only 56 to 65 persons. These new cars were described in detail in the *Railway Age* for December 12, 1921. The 220 additional suburban coaches required for the new project will be designed along similar lines.

Eighty to 100-ton switching locomotives will be used in the various yards. On the through transfer between Randolph street and Markham yard it is the intention to use two locomotive units coupled. In this service under rated capacity the locomotives will operate at approximately 20 m.p.h.

The Illinois Central, as the owner of its own coal field and an advantageous power house site on the Calumet river near Riverdale, is peculiarly well fitted to build and operate its own power generation station. However, no decision has yet been reached on this point and the power may be purchased from a public utility company.

With the electrification the automatic signaling will be entirely rebuilt as a complete alternating current system. The existing direct current track circuits will be replaced with alternating current apparatus. Impedance bonds will be required at the ends of all circuits to isolate the track sections for the a.c. signaling current and to provide a continuation of the return propulsion circuit. The enclosed disc type of signals now used will be replaced with three-color type light signals. Although some of these signals have already been replaced, the new program calls for an entirely new relocation of the greater part of the signals.

Engineering Organization

In conducting the investigation the late A. S. Baldwin, vice-president of the company, was chairman of the commission. With him was associated D. J. Brumley, chief engineer of the Chicago terminal. In the course of their investigations Mr. Baldwin and Hugh Pattison, electrical engineer for the commission, toured Italy, Switzerland, France and England to investigate electrification. It was upon his return to this country that Mr. Baldwin died. Mr. Brumley succeeded him as chairman of the commission, which included Bion J. Arnold of Chicago, George Gibbs and Cary T. Hutchinson, New York, consulting engineers, and W. M. Vandersluis, engineer-secretary. Having rendered the report covering the decision on the fundamental features of the electrification the function of the commission is now terminated.

Railway Fire Protection Association

THE Railway Fire Protection Association held its ninth annual meeting at the New Willard Hotel, Washington, D. C., this week, beginning on Tuesday, October 17, with an attendance of about 100. G. L. Ball (St. L. S. F.), president of the association, occupied the chair.

President Ball in his opening address recited briefly the activities of the executive committee during the past 12 months and referred to the prosperous condition of the association. A periodical news-letter has been issued to members, keeping them advised of current developments. Regional meetings have been started in the east, and it is proposed to hold similar gatherings in the middle west and the west, perhaps once or twice a year. The United States Chamber of Commerce proposes to start a nation-wide fire prevention campaign and this association plans to co-operate in the movement.

The executive committee, E. A. Ryder (B. & M.) chairman, reported a total membership of 235 (157 active, 75 associate and three honorary), 36 members having joined during the year.

The Committee on Resolutions, B. S. Mace (B. & O.) chairman, reported a set of resolutions which were in the nature of a platform of principles for the guidance of members. In these the association appeals to all railroad executives not only to support their own fire prevention departments, particularly in the direction of educating all employees, high and low, but to proclaim with emphasis their own

purpose to support this association. Every road is urged to put all of its fire prevention activities under a single central authority and to see that there is effective co-operation between all other departments and the fire department. It was resolved to send a copy of these resolutions to the chief executive of every railroad in the country.

Fire Causes of 1921 in Detail

The Committee on Statistics, G. R. Hurd (I. C.) chairman, gave totals of fire losses for 1921, as reported by 75 railroads representing about 80 per cent of the Class I roads of the country. The total miles of road represented in these reports is 207,634. The number of fires reported is 7,963, only 12 less than in 1920, but the total of the losses, \$7,589,611 is almost \$3,000,000 less than in 1920. This difference is accounted for partly by the general fall in values of some classes of property, and partly by a lessened volume of freight business on the railroads. Losses due to fires on adjacent property increased, indicating the need of keeping in touch with neighbors. The committee suggested that a railroad should keep itself fully informed concerning fire hazards in all buildings within 150 feet of its right-of-way. Suggestions of the lessons of fires were given in connection with numerous classes: Exposure to forest fires, friction, hot journals, etc., incendiary and others. Smoking should be prohibited not only in shops, freight houses, etc., but in offices as well.

In the discussion on this report, E. N. Floyd (C. C. C. & St. L.), proposed that statistical averages by the month or day are not so valuable as those per train-mile—for some causes rise and fall with changes in volume of business. The importance of getting reports of all fires, no matter how trifling from a cost standpoint, was emphasized by several members. Some roads do not report all fires even where the loss is as much as \$100. When responsible for a small fire, they often try to keep it out of the records.

The uselessness of reports which say "cause unknown" was pointed out by several members. The efficient superintendent does not accept such a report without full investigation. W. F. Steffens (N. Y. C.) said that on his road in 1921, by thorough investigation, a large number of fires were forced out of the "unexplained" column. "Spontaneous ignition" is another which oftentimes is suspicious.

E. W. Osborne (Nor. Pac.) believes he finds at least the probable cause in 99 per cent of his fires, and positive evidence in 75 per cent. Electricity is wrongfully blamed in many cases where the person reporting does not make thorough investigation or has a selfish purpose in concealing the true cause. "Electric fire" has taken the place of the former popular explanation, "caused by rats and matches."

This report was accepted and referred to the executive committee with recommendation to make the improvements in form and classification that had been suggested.

Locomotive fire hazards were reported on by a committee of which Earl N. Floyd (C.C.C. & St. L.) is chairman. The committee expects to have a conference with a committee of the International Railway Fuel Association, but beyond that had nothing to report.

What Progress Can Be Measured?

Tuesday afternoon was devoted largely to a "symposium" on "Are Fire Protection Efforts Producing Results?"

C. C. Rambo, manager of the Railroad Fire Insurance Association, the first speaker, reported his observations while visiting different roads in behalf of his association. Results were noted as "splendid" in 1918 and they are more certainly so now. Losses on fixed structures afford a good index of efficiency, as they are not affected much by fluctuations in volume of traffic and these show greatly reduced losses in 1921. Mr. Rambo emphasized the duty of concentration on preventable fires, which continue to occur year after year. Losses due to smoking and matches have increased seriously.

In three years the total of railroad losses in these classes was \$763,042, an increase, while the total losses, including all causes, decreased; and doubtless many "unexplained" cases ought to go in this class.

B. S. Mace (B. & O.) confirmed Mr. Rambo's views and statements. Mr. Mace is chairman of a committee appointed by the governor of Maryland, which has reformed much bad practice in that state and he recommends railroad fire protection officers to take part in state, municipal and community fire prevention activities. He has found speaking to pupils of public schools productive of excellent results. Teaching on this subject has been put into the curriculum in some Maryland schools. He hopes to get some advanced legislation in that state. Mr. Mace and E. B. Berry (So. Ry.) represent the Railway Fire Protection Association in the National Fire Waste Council. The Baltimore & Ohio offers to co-operate in fire prevention with all industries located on its lines.

W. S. Topping (Bureau of Explosives) gave interesting observations made in connection with the work of his bureau, confirming what had been said about progress during the past 15 years. The Bureau has induced manufacturers of explosives to make numerous improvements in packing which have lessened the number of fires in transportation. Among these are a rule not to ship in the same package two substances which, if mixed, will evolve heat, and not to ship oily waste or paper, and other such risky substances, in box cars. Gasoline fires have been reduced by encouraging the use of electric hand lanterns. All wrecking outfits should have portable electric lights. The number of train wrecks followed by fire has been markedly reduced.

Robert Scott (A.C.L.) and L. F. Shedd (C.R.I. & P.) reported interesting experiences lecturing to pupils in schools. The suggestion was made that gatherings of boy scouts and of girl scouts constitute a field which ought to be cultivated as much as the schools.

Committee on Forms

This committee, W. C. Neely (N. & W.) chairman, has begun its work but the roads have been slow in furnishing samples and information. The committee proposes to standardize the following: Preliminary notice of fire; full report of same with all needed detail; report of fires on non-railroad premises; form for collection of insurance; for proof of loss; placards; for an original fire survey; for re-inspection; regulations for fire drills, and others.

Transportation of Explosives

W. S. Topping, of the Bureau of Explosives, aided by the chief chemist of the Bureau, C. P. Beistle, and Inspectors Baldwin, O'Donnell, Cook and Campbell, answered a large number of questions presented by members about the proper interpretation and application of the I.C.C. rules covering the transportation of dangerous articles.

On January 1, next, revised rules are to be issued embodying additional features made possible by the increased power granted to the Interstate Commerce Commission in the last revision of the federal law. Shippers can be more effectively held to their responsibility. In this discussion W. F. Hickey (N.Y. N.H. & H.) called attention to the fire risk from stray electric current when cars of gasoline stand on side tracks not properly bonded and insulated to provide against that danger.

The difficulties incident to enforcing the rule that tanks to receive gasoline from cars shall not be placed within 30 feet of a passenger track were enlarged upon by a number of members. Oil men always object to the cost of a special track and if refused the use of a track near the main line, appeal to the traffic department with the threat to go to another road. To preserve this safety rule the railroads must act together.

Bridge and Building Meeting in Cincinnati

Thirty-Second Meeting Characterized by Good Reports, Active Discussion and Interest in the Exhibits

THE AMERICAN Railway Bridge and Building Association, in common with other railway organizations scheduled to hold meetings this fall, was confronted with the prospect of postponing its convention because of the serious difficulties with which the railroads contended during the past summer. The officers of this association were thoroughly determined to hold their convention, with the result that the meeting held in Cincinnati on Tuesday, Wednesday and Thursday of this week was one of the most successful which this association has ever held. That the officers of the association had the courage of their convictions and never laid aside their plans for holding the meeting is attested by the evidence of thorough preparations which characterized the sessions. The preparation of a bulletin containing the reports of all committees in advance of the meeting served to expedite the conduct of the sessions since it obviated the necessity for a detailed reading of the reports on the floor and thus afforded more time for thorough discussion.

The selection of a place of meeting as centrally located as Cincinnati was, no doubt, an important factor in encouraging a large attendance. The selection was also a happy one because it afforded the members of this association an opportunity to inspect the reconstructed Cincinnati Southern bridge over the Ohio river, which is in many ways one of the most interesting pieces of bridge engineering which has been completed in recent years. The session on Wednesday morning included a paper on the reconstruction of this bridge by F. W. Henrici, assistant engineer of construction, American Bridge Company, who was directly connected with the work, and this was supplemented on Tuesday afternoon by an excursion to the bridge site.

The convention was called to order at 10 o'clock Tuesday by C. R. Knowles (superintendent of water service, Illinois Central), president. After invocation by C. A. Lichty (inspector, purchasing department, Chicago and North Western) secretary, the association was welcomed to Cincinnati by Froome Morris, vice-mayor of the city and by Jas. A. Reilly, president of the Chamber of Commerce. A. O. Ridgway (assistant chief engineer, Denver & Rio Grande Western), vice-president, responded in behalf of the association. Following a review of the year's work by President Knowles, the report of the secretary-treasurer showed a membership of 830.

Over 250 members were present. R. N. Begien, general manager, Western Lines, Baltimore & Ohio, addressed the meeting on Wednesday morning, emphasizing the essentials of successful organization in the conduct of bridge and building work.

The papers and reports presented before the convention may be divided into two general classes, those dealing with the special problems arising through the advance in the science of structural engineering and those relating to the routine administration of railway bridge and building maintenance which comprises the principal responsibility of the bridge and building officer. As coming within the limits of the first class may be mentioned a report on labor-saving devices; a comparison of the relative merits of wood, steel and concrete tanks; the framing of bridge timbers before subjecting them to preservative treatment and a review of more recent studies of the bearing power of piles.

A large part of the active discussion at the various sessions related to the reports on the routine problems of bridge and building maintenance. Among these was a report on the painting of structural steel, reviewing common practice as to workmanship, and devoting considerable space to the material. This portion of the report included abstracts from papers presented before other technical societies from which a number of conclusions were drawn with regard to paints most suitable for various purposes.

The inspection of buildings was the subject of a report divided under two heads: Inspection of new buildings during construction and the periodic inspection of existing buildings. This took the form of detailed instructions to the inspector, together with some comments on the necessity for keeping an accurate record of such inspections.

The report of the Committee on the Construction and Maintenance of Sewers and Drains presented a concise summary of the properties and characteristics of the more common types of sewer pipe; namely, vitrified pipe, common drain tile, concrete sewers, brick sewers, cast iron sewers and wooden pipe. It also gave a summary of the hydraulics of conduits and a statement of principles of practice in construction.

Recognition was given to the growing use of the reinforced concrete trestles supported on bents of concrete piles in a committee report covering the handling and driving of concrete piles. This consisted primarily of a review of practices developed on roads that have had the greatest experience with the concrete pile trestle. An interesting feature of the report was the presentation of figures indicating the extent to which concrete piles have been used on some railroads. Thus, the Illinois Central has used 11,000 piles in a total of 22,072 lin. ft. of single-track concrete pile trestle, 3,747 lin. ft. of double-track trestle and 248 lin. ft. of three-track trestle. The Chicago, Milwaukee & St. Paul was reported as having driven a total of 18,088 concrete piles or 48,668 lin. ft. of piling.

Pile Driving and Pile Driving Records

The committee presented the definitions, specifications and recommended practice of the American Railway Engineering Association covering piles, pile driving and the construction and driving of pre-moulded concrete piles. The report also gave an extended review of current literature on the formulas for determining the bearing power of piles with the following comments on the consideration of foundation conditions and the recording of pile driving data.

The soil should be explored to a sufficient depth to determine if the ground alone will support the structure. If the investigation discloses that it will not sustain the structure

alone it must then be determined what kind of piles should be used, their length and number. An exploration of the earth to determine the length of piles to be used may be made by driving test piles or by making borings. If test piles are used they should be driven to a greater depth than it is intended to drive the regular piles. The driving should be observed and the safe load at various depths computed by a suitable formula.

If the earth is homogeneous it is only necessary that the piles be driven to such depths that the frictional resistance of the ground is greater than any load which will be placed

upon the pile. It should be noted, however, that in most cases the ground to be penetrated is not homogeneous. In the case of a structure of great weight and extent the engineer should carefully consider the danger of stopping the piles in a hard stratum overlying a soft one for the simultaneous loading of the great number of piles may cause the soft stratum to squeeze out and the structure to settle.

A test load may determine if individual piles or even small groups of piles will sustain a given weight over a given area, but it does not necessarily determine that when the piles receive their permanent load the stratum in which they stopped will not settle or break through into a softer one and cause it to be forced out in a horizontal direction. It appears that an exploration of the earth by borings is safer and more satisfactory than the driving of test piles although a combination of the two methods is ideal and to be recommended. The advantage of borings over the driving of test piles is that they can be carried to much greater depths and the exact soils encountered known. It also obviates the danger of stopping the piles in a hard stratum overlying a softer one as mentioned previously.

Very careful notes should be made of all earth explorations and the driving of test piles. It is well to keep samples of the soils obtained at the various depths of borings. These should be kept at least until the structure has been in use for some time and any danger of its settling past. The engineer will be repaid many times for the trouble and cost of making explorations, one of which is ability to order an economical bill of piles or one calling for lengths that will not call for excessive cutoffs and waste.

The importance of making and filing complete and dependable notes of piles, piledriving, and soil explorations cannot be over-estimated. This has been brought home to the railroads in the work of preparing valuations of their properties for the Interstate Commerce Commission. These data will be found valuable in estimating and ordering material for emergency replacements as in the case of bridges destroyed by fire, washouts and wrecks. Other occasions for their use arise when structures are to be enlarged in extent or increased in height and when it must be determined whether additional piles will be needed and if so the number and lengths required. The results of soil explorations should be not only entered in the field books but also placed upon the piling plan for the information of the inspector and pile driver foreman.

There is considerable opportunity for standardizing the important items in pile driving records. The heading should contain reference to the location of the work on line or branch, date, contractor, pile driver number, and kind and weight of hammer. In case of the gravity drop steam hammer the make and number should be given, together with the number of strokes per minute, the height of fall and weight of entire hammer and striking part separately. If a double-acting steam hammer is used, it is necessary also to record the diameter of the piston.

In the body of the report some put in a date column so as to provide a continuous pile record and to give the opportunity to record the date each pile is driven. The best practice is to number the bents in the direction of the mile posts and the piles from left to right. For piers and other foundations a sketch or pile plan will indicate the system of numbering. The kind of timber or concrete in the pile should be noted. In the case of timber piles the diameter of tip and

butt should be given, and in the case of concrete, the date of manufacture and the name of the manufacturer. Next should be recorded the length of pile in the leads, the length below cut-off, and the distance from base of rail, top of pier or other reference to the cut-off. The next group of data to be recorded is that regarding the penetration. It is well to record the total penetration and the amount of penetration in the soft and hard materials separately.

A column for remarks should be provided into which can be placed notes regarding the batter of piles, broken piles, whether rings or shoes were placed on piles and other information that may be desirable. Many roads record the total number of blows for driving the pile. It is also desirable to give the original length of the pile used, where a pile is cut off before being put in the leads, provided the part cut off is wasted and not driven as another pile.

For the record of test piles it is necessary to give the rate of penetration for each foot of the driving and as much information as is possible regarding the kind of soil, along with the data of ordinary driving as given above. It is especially important to get an accurate record on the driving of test piles. The record of soil exploration by borings should show the location of the test and the distance from base of rail or other definite reference point to each kind of soil. A note should be made of the compactness and moisture content of the soils encountered.

It is well within the province of this report to urge the making of clear and definite specifications for pile driving contracts and reasonable inspection during the progress of the work. Some engineers have subjected themselves to no little criticism in the past for loosely drawn pile driving specifications.

The common requirement that the piles be driven to "practical refusal" is deplored. The use of this term has been responsible for the partial or complete destroying of many piles by over-driving. When a pile has encountered sufficient resistance to support the load to be placed upon it, and the soil explorations indicate that it has reached or penetrated into a stratum capable of receiving the load, the driving should be stopped. This condition should be clearly defined in the specifications and the formula for determining the resistance of the pile given.

It is hoped that it will be possible for the railroads of the country to keep track of the results of driving piles under various conditions so that all may make use of the information obtained. The loads put on our bridges and other structures are steadily becoming heavier, and pile material, especially timber, is becoming scarcer and more costly. It is therefore essential that our materials be used with the greatest economy consistent with future safety.

[F. C. Baluss, engineer of bridges and buildings Duluth, Missabe & Northern, Duluth, Minn., chairman.]

Discussion

The discussion of this report hinged largely about the detail with which foremen and inspectors should be required to keep field records. Some advocated complete records of every pile driven to insure that data will be available in the event of a failure, while others deprecated this practice as favored the universal use of a short form, covering every pile unduly burdening a foreman. The consensus of opinion favored by the universal use of a short form, covering every pile.

Labor Saving Devices

The committee reporting on this subject presented detailed examples of a large number of types and classes of equipment which had been found of convenience and economy on various railroads, in many cases reporting on the actual savings obtained. The introduction to the report called attention to some of the difficulties involved in the application

of labor saving equipment and suggested a number of principles which must apply.

The chief difficulty in the way of providing and using labor saving devices where considerable investment is involved, is that economies are not always secured unless the device is kept in constant use. It is also important to decide

whether theoretical or actual economies are realized, and whether such equipment should be supplied for each gang, or for alternate gangs or be kept at division headquarters. The distribution of equipment and labor saving devices should be under the direction of the division officers.

The motor car, as usual, came in for considerable commendation from the committee. There is no doubt, the committee stated, as to the advantage in the use of motor cars by bridge and building gangs. Until recently, the motor cars in use did not have sufficient power and capacity and had too much speed. At present the designs measure more accurately to what is required under actual working conditions. With the exercise of good judgment in the question of speed, the motor car is a valuable asset. The proper care and upkeep of a motor depends largely on the personal equation. The more complicated the construction of the car, the greater the cost of maintenance and upkeep and the less the value of the labor saved.

The following are a few brief references to comments appearing in the report concerning various pieces of equipment used in bridge and building work:

More attention should be given to the use of pneumatic and electric motors for boring holes incident to the construction of docks, cribs and protection piers at draw bridges. Electric drills are probably the most convenient and economical to operate where power is at hand. The Michigan Central recently constructed a crib at Mackinaw City where all the boring was done by compressed air furnished from a locomotive air pump. It was found by actual tests of hand and power boring that compressed air saved the equivalent of one man working 192 days in the drilling of 3,600 holes. The Northern Pacific uses electric motors to good advantage in boring for dowels in timber cribs. Holes $\frac{7}{8}$ in. in diameter were drilled through 24-in. timbers in 40 sec.

Only limited data are available regarding the efficiency of tie dapping machines. A recent test on the Michigan Central showed that three men dapped 85 ties in eight hours, which is about 50 per cent more than the same number of men could have dapped by hand. The New York, New Haven & Hartford estimates that this class of machinery effects a saving of 50 per cent in labor costs.

To test scales at large freight houses where there are a great number to inspect, the New York, New Haven & Hartford uses a small four-wheel truck which will hold twenty 50-lb. weights. The loaded truck is used as the test weight and is moved to various points in the freight house instead of shifting individual weights.

Paint spraying machines were recently tested on the Pennsylvania at the East Altoona engine house. Inclined panels in the ventilators were painted by spraying at a cost of \$0.029 per sq. yd. If this work had been done by hand it would have cost \$0.059 per sq. yd. The grandstand and bleachers at Altoona were spray-painted at a cost of \$0.036 per sq. yd.

A compressed air whitewashing machine is used by the Illinois Central for the whitewashing of fences and round-houses, and disinfecting stock yards. The operation requires a crew of eight men. It is claimed that the machine will do the work 50 per cent cheaper than hand labor.

Bridge and building supervisors on the Missouri Pacific and the Union Pacific highly recommend a small stiff legged derrick mounted on a push car, equipped with hand winches and with the necessary clamps for clamping the push car to the track. This is an exceedingly valuable piece of equipment and one which should be placed with all gangs having to take care of pile trestle maintenance.

The self-propelled derrick car is strongly favored by all roads reporting on this machine. It saves a great deal of labor by eliminating train crews and work trains, which at best constitute a very large item in the cost of road work. This machine, being slow, is not recommended for main line work at a distance from sidings. For yard work it is ideal

while for other work its usefulness depends on the number of trains to be avoided and the nearness of a siding. The average capacity should be 8 to 12 tons and the speed from 5 to 15 miles per hour. The greater speed is of advantage.

Locomotive cranes follow very closely the advantages claimed for the self-propelled derrick. Their scope is, however, broader and the average work which can be handled runs from 15 to 30 tons. The wrecking cranes are usually made use of where exceptionally heavy loads have to be handled. The value of the locomotive crane lies in its adaptability to many uses. For loading and unloading material out on the road locomotive cranes or self-propelled derricks are recommended by all for heavy work. For yard work, stiff legged derricks, carefully placed, are favored although special self-propelled derricks are frequently used.

Acetylene cutting and welding outfits for bridge gangs have been reported as almost indispensable for those roads having to remove or repair old structures. They may be used for cutting up or repairing girders in the field or dismantling old trusses which must be taken out of the way quickly. They may also be used for cutting I-beams, plates and angles in the field where a close fit is not required.

Portable telephones have proven very efficient for bridge jobs at a distance from a station and where it is necessary to get advice from the dispatcher as to time that track can best be out of service. They do not relieve the foreman of any precaution against accident but help to keep the work running smoothly.

For air tools the light portable compressors used for the tie tampers seem to meet with the approval of several roads. For heavier work the $9\frac{1}{2}$ -in. pump and cross-compound pump with three standard reservoirs was found to be a good combination. (Air tools have been used for boring, grinding and drilling and for reaming, riveting and concrete drilling, all proving great labor savers.)

Electrically-operated tools are of great value where power is available. They have about the same range of use as air tools with perhaps a greater advantage where large power is needed. Electric welders are very useful and particularly economical in welding broken castings on pile drivers, derricks, draw bridges, and bridge pedestals. This device not only saves time in getting damaged equipment back in service but also reclaims considerable material.

The most important field for improvement lies in an improvement of the esprit de corps whereby the men will be encouraged to think for themselves, to suggest methods of increased efficiency and to develop a feeling of loyalty to their employers. Without these, any mechanical device is doomed to failure.

The Michigan Central furnishes its bridge gangs with such technical magazines as the *Railway Age*, one copy to each gang, and other publications that can be picked up around the general offices. The men in most cases have shown considerable interest in these publications and spend their spare time in discussing different methods of handling the work instead of discussing topics which have a tendency to cause trouble and undermine the morale of the organization.

[J. S. Huntton, assistant bridge engineer Michigan Central, Detroit, chairman.]

Discussion

The discussion of this report was largely in the form of statements pointing to other illustrations of devices developed to effect economies of various kinds. In connection with motor cars, attention was called to the wide variations in the cost of operation and the consumption of gasoline, one explanation offered being the possible diversion of the fuel to other uses, which has been overcome in some cases by mixing oil with the gasoline, thereby making it unsuitable for use in automobiles, stoves, etc. Considerable time was given to testimony on the many uses of pneumatic tools.

Relative Merits of Wooden, Steel and Concrete Tanks

The first railway water tanks were built of wood and, while other materials are now being used, it is safe to say that the wooden tank will never be discarded entirely. The advantages of the wooden tank are manifold. In the first place, it is the cheapest form of construction. A wooden tank is easily constructed and a carpenter crew assigned to this work soon becomes skilled in its erection. As wood is a poor conductor of heat and cold, it is a desirable material for tanks in cold climates as the water can be kept from freezing more easily. It is not considered practicable to build a wooden tank of larger capacity than 100,000 gal. The wooden tank carries a certain fire risk and is likely to be damaged or destroyed by fire in the frost-proofing or by the burning of adjacent buildings.

Creosoted Tanks.

The increasing scarcity of durable timber for the construction of tanks, together with the increased cost, has resulted in a number of railroads constructing creosoted tanks, this type of tank now being standard on at least four railroads. Creosoted tanks are now being built in sizes up to 100,000 gal. capacity. The Illinois Central has 31 creosoted tanks in service and seven more now under construction. The advantage of the creosoted tank over the untreated wooden tank is that any timber that will take treatment can be used, thus making the cheaper timbers available for tank construction. Where the entire structure is creosoted there should be considerable reduction in maintenance as the life of the structure will undoubtedly be much greater and there is no necessity for painting other than the hoops.

The need of larger reservoirs than could be made safely with wooden staves led to the construction of the sheet iron and steel tanks, beginning about 30 years ago. The steel tank can be made of almost any desired capacity and has the advantage that it can be built quickly and is not excessively expensive. It is subject to corrosion and for that reason must be kept well painted both outside and inside. If there should be any neglect in this respect much harm may result. Reports indicate that steel tanks pass through severe freezing winter weather successfully and only the usual precautions for keeping the water from freezing need be taken.

Reinforced Concrete

The first reinforced concrete tank was built in this country in 1899, but only 53 had been built in this country and abroad by 1910. Since then many more have been constructed but not as many as the general use of concrete in other lines of construction would lead one to believe. Concrete tanks for railroad purposes are not being given general consideration for various reasons. Very few railroad water stations can be considered permanent because experience has shown that operating conditions are constantly changing, requiring frequent and unexpected changes in yards and tracks. A concrete tank cannot be moved and therefore if the permanency of the location is at all doubtful, it ought not to be built. It is also the most expensive type of tank and as the item of initial cost is often the governing factor in a decision, other types are used instead.

The Problem of the Concrete Tank

The great problem of the concrete tank is to secure a perfectly water tight reservoir. The first tanks built, as a rule, developed cracks after the tank had been filled with water. While the cracks gradually filled up, especially where the water contained limestone in solution, many of the early tanks had to be coated on the inside with some water-proofing composition. As far as is known, no tanks built recently have been waterproofed by coating the inside.

Much speculation has always existed as to the effect of severe winter weather on concrete tanks. Many such tanks are in service in northern climates and seem to give no more trouble than tanks of other types. In fact, some claim that the concrete tank stands up better than the wooden tank.

The construction of the concrete tank requires good workmanship. Most difficulties with concrete tanks can be traced almost directly to faults in the construction and it is therefore necessary that the work must be watched carefully.

Conclusions

A concrete tank will invariably represent a greater first cost than either a steel or wooden tank, yet this first cost is offset to a large extent by a far lower maintenance cost as it is a permanent structure with a life of perhaps 100 years as compared with other tanks having a maximum life not to exceed 50 years. One great disadvantage of the concrete tank is that it cannot be moved after erection.

While the concrete tank is admittedly more expensive than the steel and wooden tank and its greater life and lower maintenance cost are firmly established the relative cost and durability of steel and wooden tanks is still a matter of controversy. An average life of 30 years may be expected of tanks constructed of white pine, cypress and redwood while the other untreated timbers used in the construction of tanks will have a life not to exceed 15 years. Properly treated timber will have a life of at least 30 years and probably more. Steel tanks for railway water service have only been constructed during the past 30 years and as some of the first steel tanks constructed are still in service the minimum life of a steel tank properly painted can be based upon this figure with a minimum life of 40 to 50 years, always dependent on proper painting and maintenance. Many of the old style flat bottom steel tanks have failed through the bottom rusting away, and the figures on the life of the steel tank are based upon the modern type of conical bottom steel tank.

A feature of primary importance in the selection and construction of a water tank, and one that cannot be emphasized too strongly, is material and workmanship. As previously stated most of the difficulties experienced with concrete tanks can be traced directly to faulty construction. The manufacture of steel tanks has been developed to such an extent that one is reasonably sure of good material and workmanship as the material furnished by most manufacturers is uniformly up to standard specifications and the construction is usually done by workmen skilled in that particular line of work. The construction of concrete and wooden tanks is sometimes performed by workmen who are no doubt skilled in ordinary concrete work and general carpentry and building but perhaps do not fully understand the requirements of tank construction. Conditions encountered on the average railroad vary to such an extent that it would be unwise to establish any particular type or kind of tank as standard without regard to local conditions.

[F. A. Eskridge, assistant engineer Chicago & Eastern Illinois, Chicago, chairman.]

Discussion

The discussion following this report was not directed so much at the contents of the report as to the measures which must be taken to obtain good construction and satisfactory maintenance of the several classes of tanks. The greatest interest was manifested in the creosoted wood tanks, particularly as to methods of construction, framing before treatment and the kind of wood used. Favorable reports were given on a concrete tank in which the space underneath the tub is used as a pump house, this type having been found very successful in cold territory.

Framing Bridge Timbers Before Treatment

One of the developments that will come about with the general use of treated timber, is the framing of the timber before treatment. This is logical because it eliminates the cutting in the field that has caused many failures in the past. It is also desirable because it permits the use of machinery in place of hand work in framing the timber. It is an important development because it means that the bridge carpenter will no longer take an assortment of lumber to the job, remove decayed material and replace it by new material cut to fit, but that the lumber will be cut and framed at the mill and sent to the job ready to be placed. The field men will be erectors rather than carpenters. The structures will be built with more care and with an expected life of 30 to 40 years rather than 6 to 15 years. It will no longer be necessary for the railroads to carry large stocks of lumber for repairs due to decay, but only small stocks to take care of emergencies, such as burnouts, washouts and wrecks. It will no longer be necessary to adhere so rigidly to standard types, but structures can be designed more nearly to fit their individual location. In other words, our treated timber structures will soon be fabricated, like metal structures, at the mill ready for erection in the field.

Few railroads have so far adopted treated lumber for general use, but it is to be expected that before many years it will come into general use on all railroads: (1) because lumber is the most important material used in the bridge and building department, and will probably not be displaced to any great extent by other materials in the future; (2) on account of the rising cost of lumber the railroads cannot afford to use it untreated, and allow it to decay in the structure as at present; and (3) on account of the increasing scarcity of the better grades needed for use when untreated, it will be necessary to use the poorer grades which become suitable only after treatment.

Causes of Decay

We treat lumber to protect against decay. It is expensive and the results must warrant the expense. Experience teaches that we cannot get the results we want unless we observe certain precautions in preparing timber for treatment, in treating and in handling and working it afterwards. Treating processes have received a great deal of study and are fairly well standardized, but there is room for more study and care in the preparation of lumber for treatment. In handling lumber after treatment, experience has shown what to do, and we should now get this information to the inexperienced workmen, and make them appreciate that when working treated lumber they are no longer using plain lumber, but an entirely different material.

Decay starts from the outside. It is not necessary for the preservative to penetrate completely and to poison all of the wood; in fact it is not usually practicable to obtain complete penetration, but if there is an impervious armor of treated wood on the outside, surrounding the untreated wood, there will be no decay. If, however, there is a hole in this armor, caused by a crack, an injury, or by cutting or boring, that exposes the untreated wood, decay will take place if the other conditions are favorable, and they generally will be.

The ideal way to build with creosoted lumber would be to make complete detail drawings of each structure to fit the individual location. This would permit the framing of each member before treating. It would not be practicable to do this with pile structures since it is necessary to cut off piles to proper elevation after they are driven, and also because the piles cannot always be driven exactly in the desired location. For pile structures then, the ideal way is to drive the piles and cap them, and measure locations, then frame the balance of the structures to fit these locations and then treat the framed lumber. This idea is being carried out on some

railroads in building small structures such as highway bridges, water tanks and coaling plants, but it has not been applied generally to bridges and trestles, where the bulk of the lumber is being consumed. In these structures it is the general practice to provide treated lumber in stock sizes and cut and bore in the field as may be necessary.

While most of the failures of treated lumber seem to be attributable to careless handling or cutting in the field, it is practicable to protect these exposed surfaces of pine lumber efficiently by coating them in the field. The replies to the questionnaire indicate a fairly uniform practice for protecting creosoted pine lumber in the field which consists in coating the surfaces with two or three coats of hot creosote oil and then with hot coal tar pitch. This is sometimes followed on ends of piles by a covering of tarred paper or galvanized iron. No instance is reported where treated pine timber cut in the field and protected in this manner has decayed afterwards. For Douglas fir this field treatment should be avoided wherever possible.

The chief objection to cutting treated lumber in the field is not that the cut surface cannot be protected, but the possibility that it will not be. Until workmen have been trained to work treated lumber, they fail to appreciate the necessity for, and have little patience with the extra care in handling and precaution in working that they are required to observe.

Conclusions

1. In the replies to the committee's questionnaire, all roads advocate the framing and boring before treatment as far as practicable.

2. It is practicable to frame and bore before treatment the timber in all classes of railroad structures, but it may be necessary in badly driven pile trestles, if cutting after treatment is to be avoided, to frame certain members in accordance with measurements taken after the piles have been driven.

3. All treated lumber should be handled carefully. Piles and other heavy sticks are likely to suffer more from rough handling than lighter sticks. They should be handled with chains and not with timber dogs or cant hooks. They should not be dropped from cars as they are likely to be bruised or cracked.

4. All holes for bolts bored before treatment should be 1/16 in. larger than the bolts. Those bored after treatment should be the same size as the bolt and should be protected thoroughly by pouring hot creosote oil into them. Oil can be poured into horizontal holes by using a bent funnel.

5. Ties are likely to suffer considerable wear, particularly if proper track fixtures are not used. Tie plates should be of adequate size and without claws to cut into the wood. Spike holes should be bored and filled with creosote oil before driving the spikes. All unfilled holes should be filled with creosoted plugs. Rails should be well anchored on approaches to prevent running as much as possible.

6. The committee recommends ballast deck trestles as against the general use of open deck trestles of treated timber. While the fire risk with open deck trestles of treated lumber is probably no greater than with untreated timber, when the structure is destroyed the loss is greater. With ballast deck timber trestles experience shows there is comparatively little risk from fire.

7. The committee recommends against the use of treated lumber with plain lumber in the same structure, in situations where it would be necessary to rehandle and refit the treated lumber when the untreated lumber is renewed.

This does not apply to the use of treated piles used in trestles along with untreated lumber.

[A. B. Iisley, bridge engineer Southern Railway, Lines East, Charlotte, N. C., chairman.]

Election of Officers

At the annual election of officers on Thursday morning, the following were selected: President, Arthur Ridgway, assistant chief engineer, Denver & Rio Grande Western, Denver, Colo.; first vice-president, J. S. Robinson, division engineer, Chicago & North Western, Chicago; second vice-president, J. P. Woods, supervisor of bridges, Pere Marquette, Saginaw, Mich.; third vice-president, C. W. Wright, master carpenter, Long Island Railroad, Jamaica, N. Y.; fourth vice-president, E. T. Howson, western editor, *Railway Age*, Chicago; secretary-treasurer, C. A. Lichty, purchasing department, Chicago & North Western, Chicago; assistant secretary, F. E. Weise, engineering department, Chicago, Milwaukee & St. Paul, Chicago; directors, S. T. Corey, assistant bridge engineer, Chicago, Rock Island & Pacific, Chicago; W. B. Hotson, superintendent bridges and buildings, Elgin, Joliet & Eastern, Joliet, Ill., and P. N. Nelson, supervisor bridges and buildings, Southern Pacific, San Francisco, Cal. In addition to the inspection of the new bridge of the Southern Railway and the Motor Terminals Company's local freight handling facilities on Wednesday afternoon, the members made an inspection of the Chesapeake & Ohio terminal at Stevens, Ky., on Thursday afternoon. On Friday the flood control work of the Miami Conservancy District near Dayton, Ohio, was visited.

The Bridge and Building Supply Men's Association

An interesting and attractive exhibit relating to materials and devices applicable to bridge and building work was presented under the auspices of the Bridge and Building Supply Men's Association and attracted a great deal of interest and attention from those attending the convention.

The officers of the Supply Association for the past year were: President, M. J. Trees, Chicago Bridge & Iron Works, Chicago; vice-president, G. R. McVay, The Barrett Company, Chicago; treasurer, A. J. Filkins, Paul Dickinson Company, Chicago; secretary, D. J. Higgins, American Valve & Meter Company, Chicago; honorary director, C. E. Ward, U. S. Wind Engine & Pump Company, Batavia, Ill. The members of the executive committee were: F. M. Condit, Fairbanks Morse & Co., Chicago; W. H. Lawrence, Johns-Manville, Inc., New York; T. W. Snow, T. W. Snow Construction Company, Chicago; J. E. Nelson, Joseph E. Nelson & Sons, Chicago; William Volkhardt, William Volkhardt, Inc., New York, and B. J. Wilson, *Railway Age*, Chicago.

A list of the exhibitors, giving the nature of the displays and the names of representatives in attendance follows:

- American Tar Products Company, Chicago; S. H. Fields and J. D. Treadway.
- American Valve & Meter Co., Cincinnati, Ohio; model of drop spout; J. T. McGarry, D. J. Higgins, and C. F. Bastian.
- American Hoist & Derrick Company, St. Paul, Minn.; literature; B. W. Maurer.
- Asphalt Block Pavement Company, Toledo, Ohio; asphalt flooring blocks and literature; E. J. Snyder.
- Barrett Company, The, New York; roofing, shingles, specifications, and literature; G. R. McVay and R. B. Gunter.
- Chain Belt Company, Milwaukee, Wis.; literature on concrete mixers; C. H. Marsh.
- Chicago Bridge & Iron Works, Chicago; photographs and literature; Merle J. Trees and Ced B. Smith.
- Chicago Pneumatic Tool Company, Chicago; H. G. Barbee and T. G. Smallwood.
- A. D. Cook, Inc., Lawrenceburg, Ind.; deep well pumps, screens and literature; Charles Taylor.
- Detroit Graphite Company, Detroit, Mich.; samples of paint and literature; A. B. Edge.
- Duff Manufacturing Company, Pittsburgh, Pa.; jacks; E. A. Johnson.
- De Vilbiss Manufacturing Company, Toledo, Ohio; paint sprayers; F. Craig.
- Fairbanks, Morse & Company; literature; F. M. Condit, J. L. Jones, C. B. O'Neil and F. J. Lee.
- Harker Manufacturing Company, Cincinnati, Ohio; fire prevention devices; C. E. Schultz.

Highgrade Manufacturing Company, Cleveland, Ohio; literature and samples of roofing cement; S. A. Baber.

Johns-Manville Company, Inc., New York; samples of roofing, pipe and boiler insulations, packing, waterproofing, industrial flooring and shingles; P. C. Jacobs, C. E. Murphy, Harry Newman and W. H. Lawrence.

Joseph Dixon Crucible Company, Jersey City, N. J.; literature; H. A. Neally.

Lehon Company, The, Chicago; samples of roofing and shingles; Tom Lehon, John E. Eipper and F. T. Carpenter.

E. M. Long & Son, Cadiz, Ohio; model O. G. fire gutters; A. C. Long and H. D. Roby.

Minwax Company, The, New York; model of water proofing flashing for a bridge deck and literature; A. S. Harrison.

Mudge & Co., Chicago, literature; J. Mulholland and K. J. Eklund.

Murdock Manufacturing & Supply Company, The, Cincinnati, Ohio; hydrants, drinking fountains and railway water service boxes; J. C. Endebrock and Kelso Murdock.

Massey Concrete Products Corporation, Chicago; literature; C. H. Hunsaker and A. Hultgren.

National Lead Company, New York; literature; F. M. Hartley, Jr., T. Mangan and S. V. Van Riper.

Norton, A. O., Inc., Boston, Mass.; literature on jacks and jack covers; G. R. Law.

Nelson, Jos. E., & Sons, Chicago; literature; I. B. Tanner.

Nichols, Geo. P., & Bro., Chicago; literature; Geo. P. Nichols.

Patterson, W. W., & Co., Pittsburgh, Pa.; tackle blocks; W. W. Patterson, Jr.

Patterson & Sargent Company, Cleveland, Ohio; G. W. Anderson and W. H. McBride.

Paul Dickinson, Inc., Chicago; model of cast-iron camp car jack, chimney for small buildings and ventilators; A. J. Filkins.

Railway Review, Chicago; copies of paper; W. M. Camp and L. E. Kohler.

Rivet Cutting Gun Company, Cincinnati, Ohio; pneumatic rivet cutter and concrete digger; L. K. De Bus and Joseph Desalvo.

Robertson & Company, Wm., Chicago; model of culvert; R. F. Repasz.

Simmons-Boardman Publishing Company, New York; copies of paper; E. T. Howson, W. S. Lacher, F. C. Koch and B. J. Wilson.

Snow Construction Company, T. W., Chicago; literature; T. W. Snow.

Stover Manufacturing & Engine Company, Freeport, Ill.; literature on engines and samples of steel fence posts; W. V. Heckman.

U. S. Wind Engine & Pump Company, Batavia, Ill.; literature; C. E. Ward.

Volkhardt Company, Inc., The, New York; model of hydrants and parts; Wm. Volkhardt.



International

A Three-Cylinder Pacific on the Great Northern (England)

Engine No. 1471 Recently Hauled a 20-Car, 610 Long Ton Passenger Train Over a 105.5-Mile Division of Uneven Gradient in 2 Hours 2 Min. Locomotive Has Three 20 in. by 26 in. Cylinders, Working Pressure of 180 lb., Adhesion Weight of 60 Long Tons and a Tractive Effort of 29,835 lb. at 85 per cent Boiler Pressure.

Freight Car Loading

WASHINGTON, D. C.

FREIGHT CAR LOADING, after having reached during the week ending September 30 within 3 per cent of the peak loading of 1920 dropped back during the first week of October to 968,169 cars, an increase as compared with the corresponding week of last year of 68,488 cars, but a decrease as compared with 1920 of 43,487 cars. There were decreases as compared with the week before in all classes of commodities except coke, although the decrease in coal loading was only 37 cars, but the principal reductions were in merchandise and miscellaneous freight, which decreased about 15,000 cars. It is thought that this may be partly explained by heavier loading on account of the car shortage. In the Southern, Central Western and Southwestern districts, however, the loading was in excess of that for the corresponding week of 1920. In the Pocahontas district it was below that of last year. The summary as compiled by the Car Service Division of the American Railway Association follows:

Citrus fruit movement from Florida, and other perishable fruit, is increasing, and is much earlier than usual. Owing to limited refrigerator car supply, it is necessary to use ventilated box cars to the fullest extent where such cars are available.

The following new instructions are given:

(1) Ventilating box cars must not be used for loading except with perishable freight or with dead freight directly to home roads or from one local station to another on the home road.

(2) When no immediate loading should be moved empty to owners.

(3) Give special supervision to the handling of ventilated cars to see that instructions are fully understood and proper distinction made in the handling of these cars as distinguished from ordinary box cars.

Division 5 of the Interstate Commerce Commission has ruled that empty coal cars should not be used for the movement of coke but that special cases which might warrant an exception to that rule should be brought to its attention for appropriate action.

REVENUE FREIGHT LOADED

SUMMARY—ALL DISTRICTS, COMPARISON OF TOTALS THIS YEAR, LAST YEAR, TWO YEARS AGO. WEEK ENDED SATURDAY, OCTOBER 7, 1922

Districts	Year	Grain and grain products	Live stock	Coal	Coke	Forest products	Ore	Mdse. L.C.L.	Miscellaneous	Total revenue freight loaded		
										This year 1922	Corresponding year 1921	Corresponding year 1920
Eastern	1922	8,006	3,302	57,364	1,939	5,843	4,238	63,298	93,710	237,700	.....	.....
	1921	9,086	3,167	49,211	1,860	4,555	2,429	63,472	81,393	.....	215,173	248,303
Allegheny	1922	3,127	3,387	55,903	4,752	3,187	9,208	45,918	71,143	196,625	.....	.....
	1921	2,539	3,076	51,069	2,600	2,614	5,127	48,009	58,971	.....	174,005	212,538
Pocahontas	1922	177	383	16,981	286	1,340	29	5,055	3,635	27,886	.....	.....
	1921	264	328	21,361	178	1,237	93	5,707	4,061	.....	33,229	38,228
Southern	1922	3,912	2,425	22,311	903	18,523	1,168	38,424	44,770	132,436	.....	.....
	1921	3,901	2,144	23,971	472	15,993	435	39,956	41,573	.....	128,445	132,301
Northwestern	1922	17,904	9,622	10,483	1,451	15,679	30,091	28,678	41,415	155,323	.....	.....
	1921	18,639	9,030	10,001	619	11,636	16,199	28,640	43,262	.....	138,026	167,255
Central Western	1922	12,374	16,127	19,290	389	7,057	2,142	31,604	58,723	147,706	.....	.....
	1921	15,430	12,617	22,139	218	6,639	741	32,239	52,980	.....	143,003	142,580
Southwestern	1922	5,053	4,113	6,980	160	6,215	563	15,538	31,871	70,493	.....	.....
	1921	4,598	3,405	4,843	121	6,645	739	16,900	30,549	.....	67,800	70,461
Total Western districts	1922	35,331	29,862	36,753	2,000	28,951	32,796	75,820	132,009	373,522	.....	.....
	1921	38,667	25,052	36,983	958	24,920	17,679	77,779	126,791	.....	348,829	380,296
Total, all roads	1922	50,553	39,359	189,312	9,880	57,844	47,439	228,515	345,267	968,169	.....	.....
	1921	54,457	33,767	182,595	6,068	49,319	25,763	234,923	312,789	.....	899,681	.....
	1920	41,375	32,594	224,063	16,347	60,516	79,278	208,757	348,736	.....	.....	1,011,666
Increase compared	1921	.....	5,592	6,717	3,812	8,525	21,676	.....	32,478	68,488	.....	.....
Decrease compared	1921	3,904	.....	.....	.....	.....	.....	6,408	.....	.....	.....	.....
Increase compared	1920	9,178	6,765	.....	.....	.....	.....	19,758	.....	.....	.....	.....
Decrease compared	1920	.....	.....	34,751	6,467	2,672	31,839	.....	3,469	43,497	.....	.....
October 7	1922	50,553	39,359	189,312	9,880	57,844	47,439	228,515	345,267	968,169	899,681	1,011,666
September 30	1922	52,129	39,830	189,349	9,456	58,742	49,777	234,517	354,581	988,381	904,831	992,283
September 23	1922	52,379	36,896	187,896	8,671	58,853	49,587	234,371	344,638	973,291	873,641	1,008,109
September 16	1922	52,090	34,929	172,241	8,188	57,371	53,293	234,513	333,294	945,919	852,552	991,166
September 9	1922	47,732	29,512	139,570	8,418	51,906	53,833	203,666	298,107	832,744	749,552	883,415

Reports received by the Car Service Division show that 32,929 fewer freight cars were in need of repairs on October 1 than on July 1 last when the strike of railway shopmen began. The total was 291,654, or 12.8 per cent of the cars on line. This was a decrease of 12,894 cars as compared with the number on September 15, at which time the total was 304,548 or 13.4 per cent. On October 1 last year, 364,372 or 15.8 per cent were in need of repairs. Of the total 230,565 required heavy repairs, while 61,089 required only light repairs. This is a decrease compared with September 15 last of 11,114 in the number requiring heavy repairs, and a decrease of 1,750 in the number needing light repairs. Every district reported a decrease as compared with September 15.

The Car Service Division has cancelled instructions contained in CSD 111 for the diversion of ventilated box cars to Western territory.

Effective at once all roads were directed to give ventilated box cars expedited movement to their owners, except that cars on roads in territory west of Chicago and the Mississippi river en-route to Western roads on previous instructions will be moved through to destination.

Division 5 of the Interstate Commerce Commission has ruled that no objection will be interposed to the movement of mill cinder and mill scale for furnace use when moving in open top cars under the same conditions as fluxing stone for furnaces.

The percentage of cars placed to cars required for coal loading was reduced during the last week of September to 55 as compared with 58 the week before. There has been a steady decrease for several weeks. The number of cars required was 381,878, the number of cars placed was 211,061, while the number of cars loaded was 182,158. This, however, was an increase of 9½ per cent as compared with the corresponding week of 1921.

The summary of principal freight car accumulations compiled by the Car Service Division of the American Railway Association shows 68,663 cars held in greater numbers than can be handled or disposed of currently, as compared with 72,656 cars for the week of September 29 and 80,320 for the week of September 22. The latter figure represented the peak for the year. Of the total as of October 6, 52,812 cars were held on account of the disability of the reporting road to move them.

The Pennsylvania System Newspapers *

By Logan B. Sisson

THE PENNSYLVANIA NEWS was founded as an employees' newspaper and makes no claim to being an employees' magazine. It is rather an approximation of a country weekly in railroad overalls. It is printed on news print, comes out every two weeks, and at least 90 per cent of the space is devoted to news about the employees themselves and the activities of members of their families. The remaining space is used for new developments in the railroad property in which the employees are interested, humor, cartoons, poems and a short editorial. A considerable portion of the news is presented through pictures and drawings. Company or management propaganda has no place in the paper. It is a newspaper or as near a railroad family newspaper as the employees, with the guidance of the editorial staff, can make it. Its editorial masthead carries this sentence: "Published every two weeks by the Pennsylvania System for all employees in the ——— Region in the interest of getting us all better acquainted with one another and with the property."

Purposes of Regional Newspapers

What the Pennsylvania System hopes to accomplish with these newspapers is briefly summarized in the editorial announcing the first issue published in Pittsburgh last January:

"The Central Region celebrates the advent of 1922 with a newspaper for employees. It's coming around every two weeks—right into roundhouses, shops, yards, signal towers, freight and passenger stations and offices, and thence into the homes of 50,000 P. R. R. families—to repeat the friendly handshake which the first number extends. 'The Pennsylvania News' expects to get personal about the Central Region; to get all of us better acquainted with one another, with our officers, and with the property. Many who wear the Veteran Association button remember that several decades ago the boss knew all the men who worked with him, well enough to ask, occasionally, after the health of the Mrs. and youngsters. 'The Pennsylvania News' comes in, therefore, to supply some of the personal interest and understanding that is otherwise well nigh impossible in a region with 3,600 miles of track running from Altoona to Buffalo to Columbus to Wheeling, with Pittsburgh at the hub.

"It will endeavor to be just as human, just as informal, and just as interesting and helpful as you make it. A magazine interviewer recently asked Lord Northcliffe, the famous English publisher, what people are interested in. 'Themselves,' he replied without a moment's hesitation. That is just how 'Pennsylvania News' feels about its job in the Central Region. It places itself in your hands confident that you will co-operate in making it the influence you want it to be."

These newspapers are intended, therefore, to develop company spirit among the employees and pride in their work. They seek to interest the employee and entertain him. They make no attempt to "uplift" or preach.

The Central Region edition, which began with a circulation of 50,000, is now printing approximately 63,000 copies—one for each employee. The Northwestern Region edition, which began publication July 1, distributes 21,000 copies from the editorial office in Chicago. The third edition, soon to be inaugurated in Philadelphia for the Eastern Region, will require between 90,000 and 100,000 copies. With the fourth edition ultimately to be published in St. Louis for the Southwestern Region, the combined circulation of The Pennsylvania News will be 200,000. It will ultimately be possible to syndicate to the four editions general information of interest to all employees throughout the system.

Reporting News Events

In general the plan for gathering news is as follows: A chief correspondent is selected for each superintendent's divi-

sion. He has reporters stationed at the shops, yards, roundhouses, freight stations and terminals. The number of reporters varies from six on a small division to 50 or more on a large division. The editor and his assistant at regional headquarters depend on the chief correspondents just as the city editor of a metropolitan newspaper depends on his reporters.

The chief correspondent, therefore, is a most important factor in the development of the newspapers. He is usually an employee who has been with Pennsylvania some time and one who enjoys a wide acquaintance among employees on his own division. He is the clearing house for all information concerning the employees in his territory. He gets out over the road with his camera on his back and develops news stories. He "covers" meetings, outings, athletic events, etc. He is in constant touch with the editor by telephone and telegraph as well as by mail. Once a month he attends a staff meeting at which the last issue of the paper is criticized and plans for the next issue are announced.

In the course of a few months employees who up to January 1 had given no thought to news gathering have developed into extremely capable reporters. They not only handle news when it comes in—they go out and get it. Keen rivalry between divisions for space in the paper keeps each correspondent on his toes. An example of how the division correspondents function was afforded at the annual Pennsylvania System outdoor championships at Altoona on September 23. The staffs of the two regional editions were present to cover the different events on the program. Each man reported to the press booth and wrote a brief account of the sport he had watched. In this way copy which later appeared in The Pennsylvania News was made available to the representative of outside newspapers. The correspondents also wrote news about employees from their divisions who were noticed at the games.

As many as 2,000 names of employees and their families have appeared in a single issue of the Central Region edition. It is safe to say that 25,000 names have appeared in the first 18 issues to date. Some of the most interesting news is obtained by following the employees away from their railroad jobs into their outside interests—their lodges, their hobbies, their pride in their children, the books they read, etc. A freight engineer on the Panhandle division proved to be one of the most talented amateur astronomers in the country. A crossing watchman in Indiana was found to be the author of a historical book which he had typed with the two fingers on his one remaining hand. Certain employees delight in hunting, in raising fancy chickens, in exhibiting prize bulldogs, in building their own homes, in serving as justices of the peace, etc. All this sort of information The Pennsylvania News endeavors to secure together with photographs to illustrate the stories. Last June it published 200 photographs of sons and daughters of Pennsylvania employees who were graduated from schools.

Advantages of Newspapers Over Magazines

In conclusion it might be of interest to enumerate the advantages which the regional newspaper seems to offer over the system magazine:

First—It comes out twice as often as the monthly magazine.

Second—Without any advertising revenue its approximate cost is only two cents a copy.

Third—Because the edition can be printed and distributed via railroad mail service in 24 hours, it has a timeliness which cannot be achieved in a magazine.

Fourth—It comes to its readers on plain news print stock, which suggests economy and democracy.

Fifth—By making over page plates it is possible to increase the volume of news published without increasing the actual size of the newspaper.

*From a paper presented at the meeting of the Railway Employees Magazine Association at Richmond, Va., October 6, 1922. Mr. Sisson is editor of the Central Region edition of the Pennsylvania News.

An Analysis of the Present Box Car Situation

Car Service Division Sends Roads Analysis of Box Car Situation in the Various Regions

WASHINGTON, D. C.

THE CAR SERVICE DIVISION of the American Railway Association, has sent to the various roads an analysis of the box car situation, as of October 1, which indicates:

(a) That combined, the Eastern and Allegheny regions, in other words, the territory east of the Mississippi and north of the Ohio rivers, had on July 1, 106.8 per cent of their box car ownership as compared with 119.9 per cent in 1920; August 1, 106.2 per cent compared with 119.4 per cent in 1920; September 1, 110.5 per cent 1920, compared with 108.4 per cent in 1922; October 1, 109.7 per cent, 1920, compared with 113.7 per cent in 1922, showing that up until the first day of October there were less box cars in this territory than in 1920.

(b) Combining the territory east of the Mississippi and south of the Ohio rivers, there was an increase in cars on line compared with 1920 and beginning with July 1 gradually increasing until October 1. The roads and the lines in this district were handling the heaviest coal production ever handled during their history during the months of April, May and June and beginning with the strike of the shop crafts on July 1 there was a gradual accumulation of traffic on all of these lines that made it impossible to secure prompt movement of the loaded or empty equipment. This is said to be without doubt responsible entirely for the increase in box cars on line as compared with 1920. The embargoes against receipts of traffic from connections and loading on a great many of the lines in this territory which were in effect for July and August have gradually been taken off and traffic that has been held out of those territories has been moving in there more freely since the first of September. There has been a very considerable reduction in the cars on line in the Southern District ever since September 15 due to improved transportation conditions.

(c) Combining the Northwestern, Central Western and Southwestern regions it shows that on July 1, 1920 there was 87.7 per cent box cars of ownership on line as compared with 94.2 per cent July, 1922; August 1, 1920, 90.1 per cent compared with 94.5 per cent 1922; September 1, 1920, 91.9 per cent compared with 94 per cent 1922; 94.3 per cent October 1, 1920 compared with 92.0 per cent 1922.

Divided by regions the situation is about as follows:

Eastern Region

2.6 per cent less box cars on line than ownership Oct. 1, 1922.

2.1 per cent less box cars on line than on Oct. 1, 1920.

0.1 per cent increase in ratio of loading to total loading in all regions as compared with 1920.

This shows that for the region as a total there were comparatively less cars on line than in 1920 at a time when the loading was on a parity with the present and that these roads loaded practically no greater proportion of the loading of the country as a whole than they did in 1920 or 1921.

Group "A" of the Eastern region is the only territory showing an excess over ownership and that is in New England. These roads have approximately 90 per cent in excess of the cars on line that they normally had during a period of car surplus. Under orders from the Car Service Division cars are now moving out of New England empty to make up a deficit of the United States roads to the Canadian roads. In addition to that they are moving out of New England to the anthracite loading roads for loading to the west. In view of the transportation conditions it is not

practical to attempt the movement of empty box cars out of New England to the west and furthermore the demand for westbound loaded movement will absorb all cars available for movement in that direction.

Allegheny Region

30 per cent more box cars on line than ownership Oct. 1, 1922.

10.1 per cent more box cars on line than on October 1, 1920.

0.3 per cent increase in ratio of loading to total loading in all regions as compared with 1920.

This is a territory that normally has box cars on line in excess of ownership even during a period of car surplus due to the fact that inbound business in box cars is received in excess of outbound business. It is a heavy coal producing territory and since August 1 the necessities of coal production have absorbed facilities which have increased transportation demands in certain districts and made the equalization of box car traffic more difficult. However, box cars are being delivered to western connections in excess of the number of box cars received, thereby reversing the normal flow; also box cars are being delivered empty to western connections in volume and to some extent to southeastern lines who have a deficit compared to ownership.

Pocahontas Region

48.1 per cent more box cars on line than ownership Oct. 1, 1922.

26.5 per cent more box cars on line than on October 1, 1920.

1.0 per cent decrease in ratio of loading to total loading in all regions as compared with 1920.

The percentage of box cars on line in excess of ownership appears heavy, but in actual figures is only a comparatively small number due to the region constituting only three roads with an ownership of less than 15,000 box cars. These conditions are the after effects of the coal and shopmen's strikes and other labor difficulties which were somewhat more acute in this territory than elsewhere. Specific instructions are in effect on the lines in this district to expedite the return home of cars belonging to the roads in the three western regions which will have a material effect in restoring the proper car balance.

Southern Region

5.9 per cent more box cars on line than ownership Oct. 1, 1922.

9.2 per cent more box cars on line than on October 1, 1920.

0.4 per cent decrease in ratio of loading to total loading in all regions as compared with 1920.

Increase in box cars on line October 1 due almost entirely to result of conditions of operation already cited, due to the coal and shopmen's strikes. Decrease in their relative loading also due to this same cause. With operating conditions rapidly being restored to normal the number of box cars on line is also being brought down to a satisfactory figure. Furthermore definite arrangements applying to the return of cars belonging to western lines are in effect and are expediting the movement of equipment to the west.

Northwestern Region

9.1 per cent less box cars on line than ownership Oct. 1, 1922.

2.0 per cent more box cars on line than on October 1, 1920.

0.6 per cent decrease in ratio of loading to total loading in all regions as compared with 1920.

Roads in this territory had on August 1 a supply of cars practically equal to their ownership, thus putting them in good position for handling the seasonal movement of crops starting at that time. Decrease since that date has been due entirely to heavy off line traffic. It will be noted that with a considerably better car supply than in 1920 the ratio of loading in the region to the total was less than in that year. There are two or three roads in this district to which assistance is being given by arbitrary delivery of empty box cars due to the unusual volume of off line traffic and lack of compensating return loaded movement and to meet an emergency potato movement.

Central Western Region

16.5 per cent less box cars on line than ownership Oct. 1, 1922.

7.4 per cent less box cars on line than on October 1, 1920.

1.3 per cent increase in ratio of loading to total loading in all regions as compared with 1920.

In spite of a slightly less car supply than in 1920 the ratio of loading to the total in all regions increased perceptibly. During the three months July 1st to October 1st Central Western region has handled an extremely heavy volume of off line traffic, including lumber, grain and other agricultural products. It is believed that the increasing westbound movement of cars from the eastern territory will balance this movement and increase the cars on line.

Southwestern Region

9.9 per cent more box cars on line than ownership Oct. 1, 1922.

1.3 per cent less box cars on line than on October 1, 1920.

0.3 per cent increase in ratio of loading to total loading in all regions as compared with 1920.

This territory shows an excess of cars on line to ownership and a consistent increase in cars since July 1. This has been due to normal movement of grain and agricultural products from Central Western region to consuming territory and to ports for export; also due to operating conditions as result of the shopmen's strike which has interfered in some degree with free circulation of cars. However, the increase in cars on line during this period occurred in each of the three years for which figures are shown. Heavy demands for northbound loading, particularly forest products, will reduce the supply in this territory somewhat more rapidly, now that the cotton movement is practically over.



Underwood & Underwood

A Russian Section Gang

Yardmasters Get New Working Rules

NEW RULES governing the working conditions of yardmasters, members of the Railroad Yardmasters of America, were announced by the Railroad Labor Board on October 16, and are applicable to 12 roads which are parties to the dispute. The new rules include:

ARTICLE I—SCOPE

The term "yardmaster" as herein used shall be understood to include general yardmaster, assistant general yardmaster, yardmaster, assistant yardmaster, except general yardmasters referred to in Ex parte No. 72, Interstate Commerce Commission.

ARTICLE II—HOURS OF SERVICE AND OVERTIME

(a) Eight hours, exclusive of the agreed meal period, shall constitute a day's work.

(b) All time in excess of eight hours shall be paid for at pro-rata rate. Time consumed in making transfer shall not be counted as overtime.

(c) Where three shifts are worked covering the 24-hr. period, the starting time of the first shift shall not be earlier than 6 A. M., nor later than 8 A. M.

ARTICLE III—REST DAYS

(a) Yardmasters regularly assigned seven days per week will be granted two rest days per month without loss of pay.

ARTICLE IV—MISCELLANEOUS

(a) When a regularly assigned yardmaster is required to perform service other than regular duties, the rate of pay will be not less than the regular pay for days so used. When an assistant yardmaster is required to substitute for yardmaster, or when a yardmaster or assistant yardmaster is required to substitute for a general yardmaster or assistant general yardmaster, the yardmaster or assistant yardmaster will assume the rate of pay and the hours applicable to the position to which assigned.

(b) No change in the title of yardmasters of any grade shall be made for the purpose of reducing the rate of pay of position unless there is a change in their duties and responsibilities.

Referring to seniority, discipline and vacation rules, disputes over which were remanded to the parties involved by the board, the decision said:

The evidence indicates that a majority of the carriers before the Board in this case and their employees have agreed upon seniority and discipline rules, and these subjects are remanded in their entirety. The Labor Board believes that certain other subject matters may not be covered in all localities by rules of general application, and require further consideration by the parties directly concerned. All such rules which involve a dispute between a particular carrier and its employees are hereby remanded to said carrier and its employees for the purpose of adjustment under the provisions of section 301 of the Transportation Act, 1920.

In further negotiations attention is again directed to the principles announced in Exhibit "B" of Decision No. 119.

The action of the Labor Board in declining to adopt a rule requiring carriers to grant annual vacations with pay to this class of employees must not be construed to mean that the Board disapproves the granting of such vacations by the carriers. The Board is expressing neither approval nor disapproval, but is of the opinion that this question should be disposed of by mutual agreement of the interested parties.

The following roads are parties to the dispute ending in this decision:

Baltimore & Ohio Chicago Terminal, Central Vermont, Denver Union Terminal, Ft. Worth & Denver City, Gulf Coast Lines, Jacksonville Terminal Company, Michigan Central, New York Central (West of Buffalo), New York Central (Buffalo and East), Seaboard Air Line, Union Railway, and Wabash.

This decision of the board is particularly interesting in that for the first time official recognition is given to the eight-hour day for yardmasters as a general practice, and also because a specific time is set for the starting time of the first of the three daily shifts.

ORAL ARGUMENT on the valuation of the Western Pacific will be heard by the Interstate Commerce Commission at Washington on November 1. The Boston & Maine case has been assigned for hearing before Examiner Marchand at Washington on November 20.

The Transportation Situation and the Farmer*

Farmers Stand to Lose Millions by Railroad Traffic Congestion
—Over-Regulation the Cause

By Julius H. Barnes

President, Chamber of Commerce of the United States

I WANT to mention the railroad situation at this point. No man today can claim that a public facility such as the railroads, vested as it is with the public interest, touching every man's business and home, can be left entirely devoid of some public regulation. It is inconceivable that there should not be some public control of a facility in whose hands rests the power to make or unmake entire communities by a rate structure resting in its officials. That goes too far, but we can create an informed and fair public opinion which will recognize not only the justice of allowing a field of return for privately owned and operated facilities, and the wisdom, from the public's own standpoint, of allowing such adequate return if there is to be a constant improvement and expansion of their facilities.

You know that today the transportation facilities of this country are inadequate for the business now tendered them. I want to use as an illustration the grain trade of this country and show you how far-reaching this is in its effect. I speak of grain, not because I am provincial enough to believe that it is the major industry of this country, but because out of 30 years' experience in grain exporting I can qualify somewhat as a competent witness on that subject, and because you will lift the similarity out of grain into the lines of industry with which you are more familiar.

You will agree with me that if there is one single menace to the onward march of business activity and prosperity in this country it rests in the dissimilarity between the prices paid for farm products and the prices of those commodities which the farmers must buy.

I do not follow the full way with those who say that the farm is in a state of collapse. It is no such thing. Twenty cent cotton and ten dollar hogs will take care of a large part of our farmers with a measure of prosperity, but the grain-raising country has suffered and the grain-raising country has today the sunrise of hope before it.

Yet this is the situation: From the first of September until the first of October, in the very height of the crop-moving period of this country, the main channel of export outlet for grain in America, from Buffalo to New York, was practically closed. For thirty days the four great trunk lines that serve that channel of movement contracted no grain for movement. The grain moved from the West until it had congested and exhausted the elevator facilities of Buffalo—18,000,000 bushels. As soon as the unloading facilities were thus exhausted, the lake carriers, reflecting the apprehension of their owners that the boats would be tied up with undischarged cargoes instead of being returned, made an advance in the lake rates, in 30 days, from 2 cents per bushel for the carrying of grain from Chicago and Duluth to Buffalo, to 6 cents.

The rail rate from Buffalo to New York, on the published tariff, is nine cents, but as I explained to you practically no grain was moving. The route that was open—the Erie Canal—with totally inadequate facilities, advanced the rate to 13 cents per bushel, paralleling the railroad, which was supposed to carry it for 9.

From Buffalo to Montreal is a water route. It is equipped with the facilities of forty years ago. It can handle a

vessel of 250 feet in length, when the lake carrier of today west of Buffalo is 600 feet in length. That means that the carriers that operate on this 40-year-old route are limited in number, and limited more in carrying capacity. Thirty days ago those carriers were operating on a tariff from Buffalo to Montreal of 6 to 7 cents per bushel. Last Saturday 15½ cents was paid for the carriage from Buffalo to Montreal. That is the pressure of grain west of Buffalo seeking an outlet to foreign markets.

The effect of the market rise in prices has been this. In 30 days the foreign price of wheat has advanced 25 cents per bushel, the foreign price of corn has advanced 20 cents per bushel, because those markets are inadequately supplied. The market price in America of wheat has advanced 10 cents per bushel, and of corn 10 cents per bushel. That is, the spread between the ultimate foreign price which should be reflected back to our farms, has widened from 10 to 15 cents per bushel because of the lack of adequate facilities to move the crop pressing on the market in the west.

I make this statement out of 30 years' experience as a grain exporter, watching the diversion of grain from route to route for a half cent per bushel economy of one route against another. As a member of a trade that has been content for years to lift grain from the western primary markets, like Duluth, Port William and Chicago, and deliver it to Hamburg and Rotterdam and Liverpool and London for a charge of one cent per bushel, I make this statement, that we have today four billion bushels of grain in the west, the value of which to the farmer in every market in the west is at least ten cents per bushel below a proper relation with the European consumer markets. You take 10 cents per bushel, assuming this continues through the crop year—and it won't, thank goodness—and it would mean a loss in farm revenues of \$400,000,000.

I don't need to tell you businessmen, familiar with business, what the loss of \$400,000,000 of enlarged spending power to the grain farmers alone would mean to other industries in this country.

That train of evil, that train of economic loss to a basic industry of this country, follows, I believe from an over-rigid system of government regulation over our railroads, which has extended over ten or twelve years. By a process of control of revenues without any responsibility for operating costs we have destroyed the earning power of our railroads. We have thereby undermined their credit, and from neither source, of earnings nor of credit, have they been able to maintain their equipment in a proper expansion with the growth of this country.

I said that the Chamber of Commerce of the United States claimed some credit for having lightened this hand around the throat of industry in this country and particularly the railroad industry, from over-regulation. Today, with this situation, it is proposed by farm senators in Congress that at this coming session they are going to restore the authority of state commissions to control railroad rates. Just follow that a moment, gentlemen—48 individual state commissions with no responsibility for the operating results of systems which must operate as a whole (many of them national in character) are going to assume a control in the interest of their own states of the revenues from the evil effects of which

*From an address made before the National Conference of Business Papers at New York, October 12, 1922.

we have just escaped. You can depend upon it that the Chamber of Commerce of the United States will stand against that, and I hope with the unanimity of business support behind it.

Southern Pacific Asks Authority to Keep Central Pacific

WASHINGTON, D. C.

THE SOUTHERN PACIFIC COMPANY on October 17 filed an application with the Interstate Commerce Commission for authority to acquire control of the Central Pacific by lease until December 31, 1984, and stock ownership pending the determination of the proceedings now going on before the commission for the consolidation of the railroads of the country into a limited number of enlarged systems. The control applied for is temporary in character, in that it is subject to be terminated by order of the commission when and if found to be inconsistent with the plan of consolidation, which Congress has directed the commission to make. The application is based on provisions of the Transportation Act, 1920, paragraph (2), section 5, which give the commission power to authorize one carrier to acquire control of another by lease or stock ownership, whenever it finds that such control is in the public interest, and which expressly exempt a control, so authorized, from the provisions of the Sherman Act. Its object is to prevent, by resort to this later act of Congress, immediate dismemberment of the Southern Pacific System, which would otherwise result from the recent decision of the Supreme Court, and to preserve the status quo pending an orderly determination and promulgation by the commission of its final plan of consolidation. The Supreme Court recently denied the Southern Pacific's petition for a rehearing.

The relief sought from the commission, the Southern Pacific counsel assert, is not antagonistic to the mandate of the Supreme Court or in conflict with anything decided by that court. The ultimate object of the mandate is to create a situation in harmony with law. The only remedy the Sherman law, considered alone, provides is to tear the properties apart. But the Transportation Act empowers the Interstate Commerce Commission to legalize the control of the Central Pacific by the Southern Pacific, if it finds that to be in the public interest. Hence the purpose of the petition to the commission is to prevent a separation of the properties until the commission can determine whether it is in the public interest for it to bring about a condition in harmony with the law by authorizing for the present a reacquisition by the Southern Pacific of control of the Central Pacific and afterwards by authorizing the consolidation of the two companies.

The application first calls attention to the recent decision of the Supreme Court based on the Sherman Act. It shows further that the suit under the Sherman law was begun, tried, and the record closed before the passage of the Transportation Act, and that the later law was not mentioned in the decision of the Supreme Court. It cites the provisions of the Transportation Act that empower the commission to authorize a control by one carrier over another or a consolidation of one carrier with another in cases where, without the commission's authority, such control or consolidation would fall within the condemnation of the Sherman law. It is shown that such provisions of the later law manifest a radical change in the legislative policy of Congress in respect of the application of the Sherman law to the railroads of the country and "a belief on the part of Congress that there may be combinations of railroads that are in the public interest but are not legally possible under existing anti-trust legislation, and an intention to afford a means of permitting or rendering

lawful a control or combination of railroads which in the opinion of this commission is in the public interest but whose creation or continuance is prevented by the operation of the Sherman or other similar laws. Congress has made this commission the sole judge of all questions of public interest which may arise under its administration of the above referred to provisions of the Transportation Act."

The application then proceeds to state that the decision of the Supreme Court "leaves this commission free to exercise the powers and to perform the duties conferred or imposed by the Transportation Act. And it is without prejudice to the right of applicant to acquire lawful control of the Central under the later law, to the extent deemed by this commission to be in the public interest, to the end that the relations between applicant and the Central may be brought into harmony with the existing policy of the law."

The application sets forth at length the reasons why it is in the public interest that the acquisition of the control applied for should be authorized and the consequence of an attempt forthwith to tear apart the interlaced and interdependent properties of the Central and the Southern Pacific avoided, pending the orderly determination and consummation of the commission's plan of consolidation.

In this connection the history of the origin and growth of the Southern Pacific System, with the Central Pacific always as a part thereof, is set forth from its beginning in 1870. It is alleged that in the course of this 50 years of system development railroads have been constructed, terminal facilities located and provided, equipment for the whole supplied, operating divisions and methods established, routes and channels of traffic created, all for a single united railway system, without regard to corporate ownership of the different parts, the result being the creation of a transportation service of "unexcelled efficiency and economy of operation with which the communities thereby served are well satisfied."

The physical consequences of a separation of the properties at the present time are thus set forth in the application:

Independent operation of these lines would result in the creation of approximately 20 new junction points between two independent carriers; the breaking up of train service, freight and passenger; the dislocation of division terminals, shops and other facilities; the duplication of facilities involving expenditures running into many millions of dollars; the disruption of an operating organization and a system all parts of which are now working as an harmonious unit; and the substitution of two fragmentary railroad systems to perform the service which for more than 50 years has been efficiently performed by a single system. There would be created in place of the present unified system, each part designed to operate with every other part, two systems neither of which was constructed as a separate system and neither of which could give the public the satisfactory and efficient service which is being rendered by the existing single system.

By reason of the foregoing, applicant alleges that the public service now rendered by these lines will be greatly impaired and the cost thereof will be greatly enhanced unless the applicant is permitted to acquire lawful control of the lines of the carrier to the extent and by the means proposed herein.

It is alleged that the financial inter-relations of the Central and Southern Pacific are no less extensive and involved than their physical inter-relations. The financial complications and the difficult financial problems necessarily attendant upon the separation of the properties are set up as an additional reason why it is in the public interest that such separation should be postponed, by the exercise of the invoked powers of the commission, until the issue in the pending consolidation proceedings determines whether the Central Pacific is to be grouped with the Southern Pacific or with some other system. In this connection it is shown that the Southern Pacific is the guarantor of the four outstanding bond issues of the Central Pacific, aggregating over \$150,000,000, and that to secure the inter-related obligations of the two companies the Southern Pacific had pledged and deposited with trustees not less than \$150,000,000 of stocks and bonds owned by it.

Referring again to the pending consolidation proceedings it is stated that in the commission's tentative plan the lines of the Central Pacific are grouped with the Southern Pacific, while in the alternative Ripley plan a part of the Central Pacific lines are grouped with the Union Pacific, but that in no rational plan of consolidation is it likely that the operation of Central Pacific as a separate, independent unit will be provided for. If, however, the commission does not grant the Southern Pacific authority to acquire lawful control of the Central Pacific, of the provisional character prayed for, the necessary result, it is said, will be the enforced tearing apart of lines operated for 50 years as interdependent and complementary parts of a single system, and the inauguration of a temporary independent separate operation of the Central Pacific lines, pending the promulgation of the commission's final plan of consolidation. There would thus be brought about the evil effects of a separation, described in the foregoing parts of the application, intensified and rendered more unjustifiable by the temporary character of such independent operation. The petition therefore asks for a temporary continuance of the present unified service, with which in preceding part of the petition it is alleged that the communities served are well satisfied, until the commission shall have opportunity to determine the proper placement of the Central Pacific in its final consolidation plan.

The permanent separation of the Central Pacific and Southern Pacific railroads would restore to California economic railroad independence, according to a statement by Fred G. Athearn, western counsel of the Union Pacific, given out by the Washington office of the California Producers' and Shippers' Association.

"It is claimed," said Mr. Athearn, "that the carrying out of the Supreme Court decision which decreed the separation of the two roads will result in disruption of service and inconvenience to the traveling and shipping public. That such disruption should occur was specifically guarded against by the court mandate which states that the separation shall take place 'in such manner that each line will be able to freely compete with the other to serve the public efficiently.' Inasmuch as the Southern Pacific now owns all of the stock of the Central Pacific it is manifest that the application asked for would not be in furtherance of the plan for dividing the railroads of the country into groups which shall be competitive with each other as commanded in Paragraph 4 of Section 5 of the Transportation Act of 1920, wherein the duty imposed on the Interstate Commerce Commission is set forth in these words, 'in the division of such railroads into such systems under such plans competition shall be preserved as fully as possible.'"

"The Supreme Court of the United States has found and decided that the Southern Pacific Sunset Route is competitive with the Central Pacific. That such competition should exist and that such competition has been heretofore suppressed and throttled by the Southern Pacific the Supreme Court has definitely decided, and I submit that this decision of the Supreme Court was made in the public interest.

"The United States District Court of Utah, which will proceed with separation of the Central and Southern Pacific Lines under the mandate of the Supreme Court, has very broad powers over the two roads, and in the exercise of such powers must compel such joint and common use of rails and terminal facilities as will result in no disruption of service at all or inconvenience to the traveling or shipping public; to the contrary, it will re-establish competition between the Central and Southern Pacific as intended by Congress, which competition will insure a quicker and more efficient movement of California products and will give to producers and shippers of the state two strings to their bow in the matter of rail transportation. It will insure to the producers and shippers now in non-competitive territory the same advan-

tages enjoyed by those in competitive territory as to the prompt supplying of cars and equipment for handling their products."

Commenting on the company's application, J. P. Blair, general counsel of the Southern Pacific Company, said that he wished to emphasize the fact that the application "involves no conflict with the decision of the Supreme Court and no attempt to have that decision reviewed or over-ruled."

"The want of antagonism," he continued, "between the application to the commission and the decision of the court becomes clear when it is understood that under the Transportation Act the commission can authorize a control by one carrier of another or a consolidation of two or more carriers whose union, without such authority, would be prohibited by the Sherman law.

"It is self-evident that the consolidation of all existing railway properties into approximately twenty systems could not be accomplished if the commission were to be controlled by the prohibitions of the Sherman act. The wide departure between the policy of the old law and that of the new is shown by the fact that the commission's tentative plan of consolidation, promulgated August 3, 1921, provides for the continued common control of the Reading Railway and the Central of Jersey, which had been declared by the Supreme Court on April 26, 1920, to be in violation of the Sherman law, for the common control of the Burlington and Northern Pacific, two of the companies whose common control was declared by the Supreme Court in the Northern Securities Case to be in violation of the Sherman law, and for the consolidation of the Chicago, Milwaukee & St. Paul and the Great Northern Railroad, although those two great systems are parallel and competing throughout."



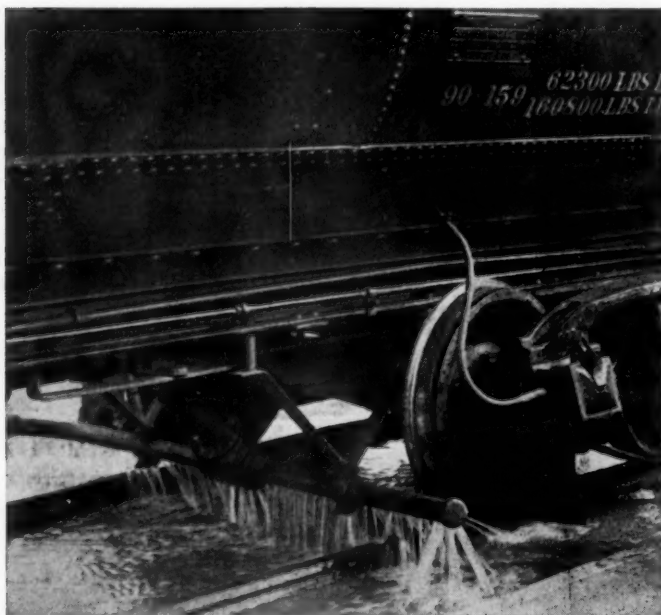
P. & A. Photo

Sir Henry Thornton, New Chairman of the Canadian National, Lady Thornton and Their Daughter, Anna, Sailing on the Olympic for England Where Sir Henry Will Terminate His Connection with the Great Eastern Railway.

Laying Dust for Passenger Trains

IN THE OPERATION of passenger trains on those portions of its southern line crossing the desert east of Colton, Cal., the Southern Pacific has constantly been confronted with the presence on its right-of-way of fine sand which blows over the tracks and rises in clouds during the passage of trains, to the great annoyance of passengers. The occasional application of oil to the track has not remedied this difficulty owing to the constant blowing of fresh sand upon the oil. To overcome this condition an apparatus has been devised by W. H. Whalen, division superintendent at Los Angeles, whereby water is sprinkled over this sand during the passage of the train, laying the dust temporarily. This is accomplished by means of a perforated pipe beneath the locomotive tender, connected with the interior of the tank by a riser pipe and controlled by a gate valve operated from the engine cab.

The sprinkler pipe is 8 ft. long and is hung about 10



Laying the Dust Under a Train

in. above the rails to give adequate clearance. The pipe is 4 in. in diameter to secure a plentiful distribution of water when traveling at high speeds, but the precaution is taken in the design to establish the inlet end of the riser pipe some distance above the bottom of the tank to prevent the draining of all of the water supply through inadvertence or accident to the sprinkler system. The valve regulating the sprinkler supply is controlled by a pull rod extending from the front of the tender to a bell crank, one leg of which is connected to the stem of the valve.

This device was first placed in service on the Los Angeles division between Indio, Cal., and Palm Springs, since which time it has been installed on a number of locomotives on three different divisions. It has demonstrated its ability to settle the dust and cool the air during the passage of the train so that it is planned eventually to equip all passenger trains operating through these sandy sections with these sprinklers.

IN A COLLISION on the Boston & Maine near Dover, N. H., on October 8, an engineman was killed and six other persons injured. The accident occurred during a heavy fog when an eastbound passenger train collided with a westbound freight train which was occupying the eastbound track in crossing over to a branch line.

The Highway Problem*

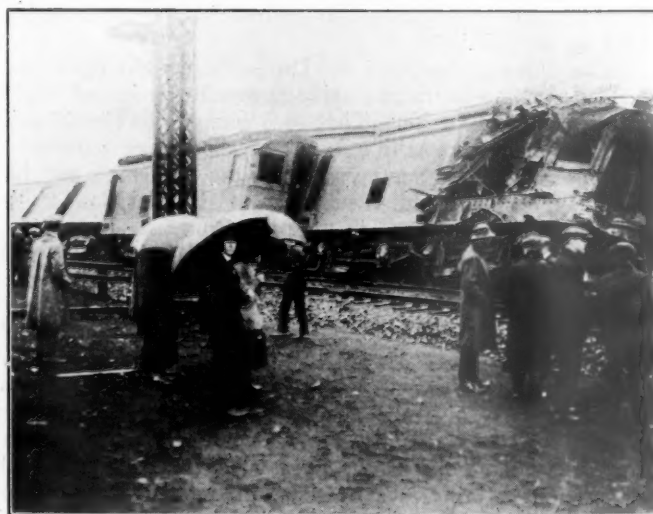
THE LEGITIMATE function of a highway is, first, the accommodation of private owners of vehicles for their individual pleasure and business. It is not designed or intended as a permanent roadbed for transportation business and can never be depended upon to fulfill that function. We have not yet developed a roadbed which will stand the everlasting pounding of this traffic for which highways were never intended. Roads that were designed and built honestly for 95 per cent of the traffic have been hammered to pieces by five per cent of the traffic.

The early destruction of many of our highways has called for rebuilding on a far more expensive scale and for all new highways to be designed for the heaviest traffic, which is only five per cent of the total. Are we to continue this expensive construction and maintenance to provide a practically free right of way roadbed and maintain it for a traffic which pays nothing for its use except a simple license, the same as any ordinary vehicle which is operated solely for purposes of pleasure?

It is generally conceded that a highway capable of standing the legitimate 95 per cent of travel can be built for \$30,000 per mile (16-ft. road). If this abnormal traffic is to be perpetuated, we must pay at least \$50,000 per mile, an extra \$20,000 per mile for five per cent of the travel. Are we going to stand for this—to make, and maintain such roads for traffic never contemplated, which cannot take the place of railroads and only serves to bankrupt them in the long run?

Electric and steam railroads are the only safe, sane and permanent means of commercial traffic; and no country can prosper without them. Their rights of way must be bought, tunnels and cuts made, bridges and culverts built, tracks laid, engines and cars bought, and all kinds of buildings erected at an enormous cost to operate this essential means of transportation. The same railroads must pay their share of cost and maintenance of the highways which are giving practically free rights to their competitors. Can we do without railroads? If not, we should see that they have the right to a fair return on their investment.

*From an address before the twenty-third annual convention of the Washington State Good Roads Association at Ellensburg, Wash., in September, by Frank Terrace, president.



P. & A. Photo

When a Passenger Train Sidewiped a Freight on the Electrified Division of the New Haven, Near Cos Cob, Conn.

General News Department

The Interstate Commerce Commission has announced a further hearing on the proposed revision of rules for the distribution of coal cars at Washington on November 15 before Commissioner Aitchison.

Dr. Charles P. Neil, manager of the Bureau of Information of the Southeastern Railways, has been appointed by President Harding as one of the members of the federal commission to investigate the coal industry.

Pension and seniority rights of trainmen and yardmen of the Grand Trunk who struck during 1910 have been restored by order of W. D. Robb, vice-president and general manager, according to press dispatches from Montreal. The order is said to affect about 1200 men.

Pennsylvania Plans Electrification at Altoona

The Pennsylvania is making plans for the electrification of its line between Altoona and Conemaugh, a distance of 35 miles. This work has not as yet, however, been authorized by the board of directors.

Rob Crack Santa Fe Passenger Train

As the California Limited of the Atchison, Topeka & Santa Fe was leaving the Kansas City, Mo., union station at 10 p. m. on October 11, enroute for Chicago, a negro boarded the observation car and proceeded by point of gun to rob six men and one woman who passed him in the corridor of the car. After he had gathered about \$200 from his victims, he made a hurried exit from the train.

New Directors of Canadian

National on Tour of Inspection

The new directors of the Canadian National left Montreal on a tour of inspection of the western lines of the system on October 15. It is stated that all the directors with the exception of President Sir Henry Thornton and Tom Moore, labor member of the board, are making the trip.

The future headquarters of the Canadian National has not as yet been determined and it is stated the selection will be left entirely in the hands of the new board of directors.

Railroad Seeks to Quit "Grave-Yard Town"

Asserting that Searchlight, Nev., has changed from a wide open mining town to "a grave-yard of tumble down buildings," the California, Arizona & Santa Fe (Atchison, Topeka & Santa Fe) has applied to the California Railroad Commission for permission to abandon its line which extends from Goffs, Cal., to Searchlight, a distance of 53 miles. The road began operation in 1908 to serve what was then considered to be a very promising mining territory. Since the decline in the mining industry, however, the road has been operated at a heavy loss.

A Correction

It was incorrectly stated in the *Railway Age* of October 14 that the shopmen's strike on the Gulf Coast Lines and the Houston Belt & Terminal had been settled with a restoration of seniority rights as of June 30. The strike has been settled but seniority rights have *not* been restored. On the contrary these companies agreed only to re-employ sufficient strikers to bring forces up to normal, the strikers coming back as new employees, relinquishing all seniority and other rights which they enjoyed when the walk-out occurred. Under this settlement about one-third of the striking mechanical craftsmen of these companies have been re-employed.

Enginemen Urge More Rigid Locomotive Inspection

More rigid enforcement of the safety appliance and locomotive inspection laws was urged by counsel for the Brotherhood of Locomotive Engineers and Brotherhood of Locomotive Firemen and Enginemen at a conference with President Harding on October 11. The President was told that the condition of railroad power and equipment is such as to constitute "a menace to the traveling public" and that many railroads are disregarding the safety laws. They asked the President to compel the railroads to observe the requirements of the laws. The President pointed out that he had recently recommended to Congress an appropriation for additional inspectors for the Interstate Commerce Commission, but that this item was omitted from the bill as it was passed.

President Has Not Definitely

Decided Railway Labor Legislation

Although various statements have been published regarding the attitude of the administration as to proposed railroad labor legislation at the forthcoming session of Congress, and Secretary of Labor Davis has proposed the abolition of the Railroad Labor Board, it was stated at the White House on Tuesday that the President has not yet definitely determined his position on this subject. Many phases of it are still under consideration and it is probable that the President will make his views known in an address before Congress at the opening of the session. He has, however, indicated his desire for some form of anti-strike legislation.

Railroad Surgeons Meet

The Association of Railroad Chief Surgeons, of which S. C. Plummer, of the Chicago, Rock Island & Pacific, is president, held a semi-annual meeting on October 17 in the Hotel Sherman, Chicago, where it was followed, beginning October 18, by a joint three-day session of the American Association of Railway Surgeons and the Association of Chicago, Milwaukee & St. Paul Surgeons. The sessions were almost entirely devoted to papers on the technic of handling various forms of injuries as well as the proper practices in claim cases. In the chief surgeons' meeting both the subjects of drinking water for trains and the report of the American Railway Association Committee on Hernia were discussed, the discussion on drinking water revolving around charges made by health departments concerning faulty handling of ice and water, in which discussion it was brought out that a report on drinking water would soon be made by the American Railway Association.

Hearing on Conditions Relating to Issue of Securities

Division 4 of the Interstate Commerce Commission has announced a hearing at Washington on October 26 for the consideration of the following:

1. Whether and to what extent the commission should, by its order in granting or withholding authorization and approval for the issuance of securities, determine, limit or restrict the price at which or the manner in which securities are to be sold and the cost to the carriers of the marketing of securities issued under the provisions of section 20a of the Interstate Commerce Act.
2. Whether it is within the province of the commission to require competitive bidding in the sale of securities and whether competitive bidding should be required.
3. If competitive bidding is required, to what class or classes of securities should it be applicable and under what regulations? Any person who may be unable to appear on that date may file a memorandum on or before the date mentioned.

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF AUGUST AND EIGHT MONTHS OF CALENDAR YEAR 1922

Name of road.	Average mileage operated during period.	Operating revenues			Operating expenses			Operating ratio.	Net from railway operations.	Operating income (or loss).	Net rentals.	Net after rentals.
		Freight.	Passenger.	Total (inc. misc.).	Maintenance of way and structures.	Traffic.	Transportation.					
Akron, Canton & Youngstown.....Aug.	170	\$176,012	\$1,696	\$186,745	\$26,211	\$23,902	\$6,052	\$9,372	\$9,357	\$124,894	\$25,606	\$71,981
Alabama & Vicksburg.....8 mos.	170	1,369,161	11,140	1,442,401	160,328	155,384	46,347	397,622	69,999	372,623	321,718	121,739
Albany & Vicksburg.....Aug.	141	142,403	57,879	212,574	48,855	38,452	9,008	11,908	204,028	204,028	604	51,404
Albany & Vicksburg.....8 mos.	141	1,390,831	454,480	1,885,276	369,062	370,384	68,175	757,165	94,975	1,674,788	187,196	22,239
Vicksburg, Shreveport & Pac.....Aug.	171	137,741	52,881	252,552	53,771	40,389	8,887	115,961	12,430	233,927	7,164	64,975
Ann Arbor.....Aug.	171	1,495,059	728,063	2,993,820	422,534	41,423	81,009	956,630	109,459	1,973,906	197,143	190,173
Ann Arbor.....8 mos.	293	369,603	48,317	448,471	52,038	87,326	6,913	137,012	16,714	364,016	33,792	160,977
Ann Arbor.....8 mos.	293	2,775,618	347,905	3,272,125	396,425	575,946	75,883	1,434,418	122,455	2,626,834	300,047	157,053
Archison, Topeka & Santa Fe.....Aug.	8,855	12,167,794	3,447,187	16,797,939	2,852,167	4,060,175	283,734	4,991,771	329,986	12,452,989	2,865,330	7,362,223
Archison, Topeka & Santa Fe.....8 mos.	8,856	78,161,289	28,244,167	115,967,469	20,578,610	27,428,859	2,109,747	36,931,979	2,672,955	89,455,066	18,758,440	28,413,528
Gulf, Colo. & Santa Fe.....Aug.	1,907	1,865,404	384,977	2,250,848	298,842	542,570	45,127	681,924	65,174	1,629,139	575,736	1,885,556
Gulf, Colo. & Santa Fe.....8 mos.	1,907	10,689,867	2,626,015	14,294,396	2,998,638	3,538,999	338,880	4,572,661	537,443	12,156,649	1,057,805	4,779,790
Panhandle & Santa Fe.....Aug.	857	512,305	128,138	683,249	207,367	160,459	7,112	204,925	21,051	600,558	33,648	560,246
Panhandle & Santa Fe.....8 mos.	857	3,369,245	908,795	4,796,377	1,300,533	1,444,232	55,483	1,603,059	151,932	4,548,006	197,019	1,108,219
Atlanta & West Point.....Aug.	93	124,624	78,052	230,167	34,847	48,788	7,125	93,004	10,459	197,569	12,489	36,315
Atlanta & West Point.....8 mos.	93	803,931	565,148	1,384,830	208,329	339,949	61,728	621,471	82,132	1,343,581	98,580	75,488
Western of Alabama.....Aug.	133	140,340	69,076	231,260	31,606	41,139	7,837	75,393	10,799	172,301	44,432	38,712
Atlanta, Birm. & Atlantic.....Aug.	133	914,329	513,257	1,427,586	218,860	355,958	67,156	545,061	85,657	1,296,314	267,263	121,549
Atlanta, Birm. & Atlantic.....8 mos.	639	2,148,553	347,855	2,496,408	388,558	81,444	20,214	159,503	10,459	2,335,936	26,315	121,549
Atlanta, Birm. & Atlantic.....8 mos.	639	1,989,019	300,235	2,495,342	406,142	694,277	168,855	1,270,019	128,409	2,730,387	26,315	121,549
Atlantic Coast Line.....Aug.	4,922	3,040,786	1,097,807	4,608,155	599,832	1,149,411	95,589	1,969,602	132,797	3,964,387	43,923	38,712
Atlantic Coast Line.....8 mos.	4,922	31,702,321	10,681,088	46,998,075	5,393,369	9,074,855	848,876	16,058,705	1,106,052	33,630,558	9,815,241	2,960,314
Charleston & West. Carol.....Aug.	342	161,187	44,906	221,333	48,790	48,225	6,452	99,542	7,192	210,201	5,673	17,716
Charleston & West. Carol.....8 mos.	342	1,765,681	302,743	2,184,616	361,446	1,171,705	52,856	891,076	52,415	1,669,498	358,605	227,524
Baltimore & Ohio.....Aug.	5,235	16,501,265	2,417,601	14,104,234	3,485,627	299,367	7,301,743	481,806	13,590,644	96,400	13,590,644	258,415
Baltimore & Ohio.....8 mos.	5,235	100,177,461	17,637,947	126,727,416	15,505,369	28,159,152	2,362,115	51,846,245	3,797,347	102,835,336	15,157,172	12,215,661
Balti. & Ohio Chic. Term.....Aug.	91	.....	.....	274,673	44,114	37,771	1,736	183,156	10,553	283,378	60,103	70,277
Balti. & Ohio Chic. Term.....8 mos.	91	.....	.....	1,998,162	286,843	248,114	15,058	1,135,806	83,020	1,812,829	719,824	302,258
Staten Isl. Rapid Tran.....Aug.	23	68,198	131,627	239,582	60,499	40,694	2,253	129,922	12,918	246,286	102,800	8,060
Bangor & Aroostook.....Aug.	23	613,527	842,015	1,455,542	257,664	108,442	1,737,409	108,442	1,737,409	108,442	1,737,409	203,172
Bangor & Aroostook.....8 mos.	625	2,79,806	72,356	3,77,037	144,330	140,642	4,122	146,972	18,034	446,365	118,400	71,258
Belt Ry. of Chicago.....Aug.	32	.....	.....	500,753	34,879	38,036	2,272	253,341	9,197	357,925	71,500	134,670
Belt Ry. of Chicago.....8 mos.	32	.....	.....	3,897,393	371,149	378,700	17,030	1,716,740	78,173	3,517,952	1,095,829	1,072,438
Bessemer & Lake Erie.....Aug.	225	1,505,199	43,070	1,548,269	111,128	401,814	12,144	478,852	295,920	534,476	615,313	615,313
Bessemer & Lake Erie.....8 mos.	225	7,355,275	7,663,772	15,019,047	2,443,133	119,560	2,516,080	2,050,999	63,476	1,450,591	1,189,657	1,059,683
Bingham & Garfield.....Aug.	34	21,951	852	23,117	12,764	3,877	6,714	4,476	242,619	125,100	10,095	32,033
Bingham & Garfield.....8 mos.	34	123,488	859	124,162	129,191	28,303	10,623	40,198	33,826	242,619	125,100	10,095
Boston & Maine.....Aug.	2,287	3,890,163	2,294,741	6,757,504	982,721	1,625,295	57,826	2,968,886	198,060	5,868,765	882,794	792,552
Boston & Maine.....8 mos.	2,287	31,057,308	14,813,165	51,402,683	7,720,898	9,833,546	441,485	23,227,928	1,730,883	43,158,571	6,575,215	2,979,502
Brooklyn Eastern Dist. Term.....Aug.	9	134,270	.....	142,398	6,411	15,572	26	49,724	4,534	76,467	59,444	30,606
Brooklyn Eastern Dist. Term.....8 mos.	9	999,124	.....	1,061,723	45,826	145,958	1,320	396,677	38,809	628,590	381,383	202,399
Buffalo & Susquehanna.....Aug.	253	72,990	4,755	81,279	34,481	22,285	1,955	35,069	8,380	102,170	24,148	6,533
Buffalo & Susquehanna.....8 mos.	253	787,574	46,045	865,357	251,966	278,930	17,215	331,229	72,089	951,429	112,116	2,537
Buffalo, Rochester & Pittsburgh.....Aug.	589	764,790	154,279	990,873	271,142	572,841	20,333	515,659	38,568	1,421,071	143,400	56,587
Buffalo, Rochester & Pittsburgh.....8 mos.	589	7,264,683	1,096,661	8,811,025	1,410,284	3,466,152	148,914	3,660,087	30,568	9,011,543	1,434,001	44,111
Canadian Pacific (Lines in Me.).....Aug.	233	1,084,333	3,873	1,558,993	43,087	41,703	4,117	78,993	3,529	1,517,419	1,517,419	51,509
Carolina, Clinchfield & Ohio.....Aug.	295	534,602	44,145	593,882	75,324	97,246	15,423	153,478	21,229	362,578	255,068	213,003
Carolina, Clinchfield & Ohio.....8 mos.	295	4,674,237	309,855	5,084,225	595,554	1,069,551	178,988	1,248,542	153,740	3,259,643	2,082,532	1,421,690
Central of Georgia.....Aug.	1,920	1,252,237	461,242	1,947,285	250,088	375,000	63,037	717,537	74,507	1,487,541	383,935	3,921
Central of Georgia.....8 mos.	1,918	9,846,591	3,332,597	14,302,928	1,944,966	2,793,119	525,622	5,655,414	99,117	11,567,700	2,469,159	362,255
Central of New Jersey.....Aug.	688	2,384,729	1,111,856	3,796,503	547,282	757,922	32,935	1,950,124	99,117	3,408,948	89,244	899,244
Central of New Jersey.....8 mos.	688	22,171,687	6,382,559	30,826,640	3,604,340	8,218,401	269,968	13,374,671	833,230	26,439,071	4,243,569	5,071,161
Central Vermont.....Aug.	532	408,741	128,421	604,638	106,810	81,372	13,844	330,853	20,114	554,254	32,788	14,750
Central Vermont.....8 mos.	532	3,276,208	801,924	4,556,861	725,309	757,167	99,925	2,348,115	188,201	4,130,386	426,571	73,470
Chesapeake & Ohio.....Aug.	2,550	4,629,075	1,009,004	5,983,593	882,379	1,468,466	88,510	2,284,925	159,205	4,910,314	803,113	1,303,078
Chesapeake & Ohio.....8 mos.	2,548	46,997,078	6,090,993	56,630,225	6,899,163	13,675,317	628,485	20,031,770	1,274,781	42,629,238	12,139,106	7,878,962
Chicago & Alton.....Aug.	1,050	1,191,959	510,018	1,891,713	400,604	508,436	60,915	983,708	52,005	2,011,990	257,025	550,588
Chicago & Alton.....8 mos.	1,050	12,340,738	4,041,606	17,885,495	2,342,290	4,868,936	447,496	7,958,539	484,792	15,437,319	836,570	609,477
Chicago & Eastern Illinois.....Aug.	945	1,258,372	401,306	1,810,522	272,525	464,854	39,154	872,570	59,737	1,719,426	9,092	559,164
Chicago & Eastern Illinois.....8 mos.	945	11,342,271	3,007,135	15,502,778	1,885,532	3,963,764	341,924	6,572,905	526,841	13,377,456	1,235,091	433,978
Chicago & North Western.....Aug.	8,403	8,495,985	2,802,035	12,860,888	1,875,883	2,365,934	146,320	5,284,627	311,267	10,051,357	2,077,329	3,647,086
Chicago & North Western.....8 mos.	8,403	63,008,819	19,876,103	93,202,325	12,398,441	18,260,499	1,219,284	40,525,491	2,485,825	75,440,341	11,560,635	2,035,996
Chicago, Burlington & Quincy.....Aug.	9,393	10,424,760	2,792,199	14,502,539	2,155,318	3,074,612	221,178	6,379,163	357,140	12,206,988	1,131,461	4,176,191
Chicago, Burlington & Quincy.....8 mos.	9,393	73,708,110	18,586,470	101,747,129	13,444,320	20,941,708	1,551,279	39,079,574	2,793,680	78,434,405	14,760,273	18,007,837
Chicago Great Western.....Aug.	1,496	1,627,325	406,778	2,204,138	448,725	443,903	60,402	843,905	54,197	1,865,164	131,079	324,810
Chicago Great Western.....8 mos.	1,496	11,215,485	2,848,817	15,442,416	2,540,442	3,463,773	513,214	6,558,337	447,861	13,622,102	123,546	83,562
Chicago, Ind. & Louisville.....Aug.	654	887,723	210,539	1,070,995	146,368	299,060	30,884	511,934	34,152	1,035,682	79,505	152,367
Chicago, Ind. & Louisville.....8 mos.	654	7,264,433	2,010,955	10,239,655	1,106,255	2,223,733	260,688	3,867,389	282,018	1,894,627	1,084,255	275,340

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF AUGUST AND EIGHT MONTHS OF CALENDAR YEAR 1922—CONTINUED

Name of road.	Average mileage operated during period.	Operating revenues.			Operating expenses.			Operating ratio.	Net from railway operations.	Operating income (or loss).	Net after rentals, 1921.	
		Freight.	Passenger.	Total (inc. misc.).	Traffic.	Trans- portation.	General.					Total.
Mo., Kans. & Tex. Aug. 1,737	8 mos.	\$1,126,435	\$74,327	\$1,645,628	\$323,063	\$410,721	\$39,652	\$687,936	\$64,344	\$1,272,482	\$63,978	\$132,571
Wichita Falls & Northwestern. Aug. 329	8 mos.	8,675,926	3,323,100	13,222,457	2,157,808	1,963,071	325,841	5,235,235	608,904	2,442,778	1,050,551	1,530,226
Missouri Pacific Aug. 7,230	8 mos.	121,070	23,974	153,518	29,917	9,183	1,028	58,248	6,175	104,109	38,429	189,546
Mobile & Ohio. Aug. 1,165	8 mos.	179,876	973,252	219,653	141,826	7,424	7,424	423,473	68,462	858,145	117,495	367,655
Monongahela Aug. 106	8 mos.	214,992	32,195	251,293	40,475	53,953	1,211	98,871	203,272	203,076	820,045	2,370,128
Monongahela Connecting Aug. 106	8 mos.	1,851,737	233,055	2,118,461	307,876	344,632	11,886	60,660	7,610	118,137	24,026	5,239,822
Montour Aug. 7	8 mos.	.....	.....	.....	21,338	97,823	506	60,660	7,610	118,137	183,848	314,832
Nashville, Chatt. & St. Louis. Aug. 1,258	8 mos.	9,345,514	1,123,937	11,233,442	1,375,405	2,267,156	355,726	4,383,751	8,775,077	2,025,676	1,607,294	314,832
Nevada Northern Aug. 165	8 mos.	56,171	4,729	64,101	12,340	5,756	398	8,949	2,636	30,079	40,021	109,109
Newburgh & South Shore. Aug. 7	8 mos.	247,480	33,321	312,892	75,544	30,283	3,439	63,546	23,484	66,373	20,347	80,689
New Orleans Great Northern. Aug. 274	8 mos.	159,908	38,451	208,870	28,650	19,646	5,636	77,332	9,387	130,982	434,659	80,689
New York Central. Aug. 6,098	8 mos.	129,579,152	59,333,046	215,441,042	55,093,977	4,415	92,210	248,377	8,454	248,377	284,427	252,160
Cincinnati Northern Aug. 244	8 mos.	200,177	19,490	228,887	66,789	79,652	39,883	79,506	66,952	174,956	66,373	83,902
Cleve., Cin., & St. Louis. Aug. 2,406	8 mos.	2,053,505	1,528,071	7,003,195	936,312	1,583,938	124,229	2,929,863	5,803,543	31,106	9,529	6,977
Indiana Harbor Belt. Aug. 119	8 mos.	39,286,975	10,684,831	54,179,681	6,243,259	10,387,498	904,394	20,535,167	1,737,894	39,841,570	284,427	252,160
Kanawha & Michigan. Aug. 176	8 mos.	286,241	44,024	344,358	70,729	65,698	3,758	173,852	4,255,045	106,184	828,032	479,785
Lake Erie & Western. Aug. 1,862	8 mos.	4,901,568	2,022,160	7,622,377	695,237	1,620,479	91,806	2,693,784	140,544	5,321,389	1,951,568	1,454,823
Michigan Central Aug. 1,862	8 mos.	34,336,455	12,424,259	51,776,358	5,424,528	11,004,208	730,674	18,238,190	1,136,609	37,063,965	10,836,086	7,778,589
Pittsburgh & Lake Erie. Aug. 227	8 mos.	1,781,345	263,065	3,139,657	327,314	628,531	29,490	913,299	57,961	1,957,761	110,394	58,944
Toledo & Ohio Central. Aug. 503	8 mos.	13,530,315	7,773,387	15,892,734	2,103,308	7,179,072	164,108	7,000,743	495,137	15,659,341	347,424	1,372,427
New York, Chic. & St. Louis. Aug. 1,242	8 mos.	3,088,908	851,596	7,903,124	1,103,216	1,871,972	80,391	1,386,465	112,876	2,698,525	282,546	1,884,414
N. Y., New Haven & Hartford. Aug. 1,986	8 mos.	38,140,436	31,907,090	78,858,227	11,133,879	16,228,379	436,335	32,274,043	2,292,903	63,575,212	837,194	772,494
Central New England. Aug. 295	8 mos.	4,034,067	19,073	446,743	132,620	95,746	4,256	190,830	11,398	434,840	484,959	513,609
New York, Ontario & Western. Aug. 569	8 mos.	3,994,328	153,960	4,366,254	616,669	660,302	33,786	1,575,229	90,598	3,271,768	4,987,617	2,641,343
Norfolk & Western Aug. 2,237	8 mos.	5,559,498	5,810,962	9,707,105	1,131,317	1,929,637	121,493	546,243	27,678	985,328	1,151,344	563,817
Norfolk Southern Aug. 930	8 mos.	6,774,192	851,596	7,903,124	1,103,216	1,871,972	80,391	1,386,465	112,876	2,698,525	1,151,344	563,817
Northern Pacific Aug. 6,630	8 mos.	6,301,662	1,386,510	7,688,172	828,068	18,339,116	141,925	5,788,450	73,200	2,114,674	1,685,101	1,933,479
Northwestern Pacific Aug. 6,645	8 mos.	42,574,663	10,387,069	58,448,288	8,600,482	13,691,704	1,135,780	22,733,504	1,721,888	48,628,306	4,008,914	1,072,703
Pennsylvania Aug. 496	8 mos.	524,916	276,044	874,785	78,321	141,925	5,842	289,045	14,401	344,303	295,129	303,805
Balti., Chea. & Atlantic. Aug. 87	8 mos.	714,729	315,682	1,072,616	110,701	287,095	15,874	604,803	29,721	1,048,197	1,159,344	1,311,469
Cumberland Valley & Mart. Aug. 33	8 mos.	73,425	6,340	83,033	11,554	345	37,023	75,000	24,419	13,758	33,056	46,744
Cin., Lebanon & Northern. Aug. 76	8 mos.	515,462	46,956	589,680	77,758	132,359	7,164	250,394	20,351	488,026	67,255	308,647
Grand Rapids & Ind. Aug. 398	8 mos.	5,654,223	13,134,557	20,607,465	2,127,520	3,242,035	14,601	451,775	18,019	763,769	27,272	199,265
Long Island Aug. 398	8 mos.	703,608	2,287,539	3,277,691	265,794	446,021	17,014	1,265,483	56,245	2,080,485	917,291	1,016,491
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Grand Poudre & Ind	Aug.	Included in Pennsylvania

Grand Rapids & Ind.....Aug. 6

8 mcs.	100	703 608	2 287 530
A. 100			

Long IslandAug.	398	703,608	2,287,535
		398	8,654,223	13,134,557

8 mos.	398	3,634,223	13,134,357
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REVENUES AND EXPENSES OF RAILWAYS

MONTH OF AUGUST AND EIGHT MONTHS OF CALENDAR YEAR 1922—CONTINUED

Name of road.	Average mileage operated during period.	Operating revenues			Operating expenses			Operating ratio.	Net from railway operations.	Operating income (or loss).	Net rentals.	Net after rentals 1921.
		Freight.	Passenger.	Total (inc. misc.)	Maintenance of way and structures.	Equip-ment.	Traffic.					
Maryland, Dela., & Va.....Aug. 82	8 mos.	\$66,485	\$146,066	\$212,551	\$12,835	\$12,835	\$6,429	78.20	\$31,988	\$23,988	\$29,956	\$29,956
New York, Phila. & Norfolk.....Aug. 82	8 mos.	430,774	243,518	674,292	74,488	208,218	15,883	106.80	19,586	-70,408	-79,959	-66,311
Pitts., Cin., Chic. & St. Louis.....Aug. 122	8 mos.	4,112,532	646,798	4,759,330	516,843	1,322,387	60,820	80.10	162,504	140,739	99,781	-166,311
West Jersey & Seashore.....Aug. 359	8 mos.	498,207	1,277,243	1,775,450	185,547	250,173	23,136	87.30	655,612	510,079	318,692	-691,782
Peoria & Pekin Union.....Aug. 19	8 mos.	3,179,355	5,418,266	8,597,621	1,294,433	1,655,876	129,341	65.00	663,348	383,978	354,075	414,038
Pere Marquette.....Aug. 2,212	8 mos.	2,542,836	515,490	3,058,326	485,493	638,650	51,169	68.90	1,781,631	1,108,567	91,216	43,241
Philadelphia & Reading.....Aug. 1,127	8 mos.	4,208,246	3,991,932	8,199,178	746,787	1,790,567	63,478	75.00	266,066	7,221,009	7,059	1,150,989
Atlantic City.....Aug. 176	8 mos.	133,976	583,163	717,139	51,273	72,206	3,994	81.80	8,880,555	7,265,582	5,397,335	5,052,356
Perkiomen.....Aug. 41	8 mos.	105,112	10,531	115,643	7,327	3,919	38,189	64.90	258,367	239,116	170,401	266,516
Port Reading.....Aug. 21	8 mos.	53,423	66,789	120,212	17,892	3,527	45,478	79.80	669,348	509,269	204,400	209,563
Pittsburg & Shawmut.....Aug. 102	8 mos.	109,064	1,143,678	1,252,742	156,969	103,852	1,832	79.80	63,696	58,757	52,791	4,250
Pittsburg & West Virginia.....Aug. 85	8 mos.	155,370	8,507	163,877	22,717	275,681	6,175	46.70	381,475	339,285	290,505	324,174
Pittsburg, Shawmut & Northern.....Aug. 210	8 mos.	595,897	78,746	674,643	67,711	33,711	861	54.40	381,475	339,285	290,505	324,174
Quincy, Omaha & Kans. City.....Aug. 252	8 mos.	433,863	188,774	622,637	17,892	3,527	45,478	102.30	-1,560	-16,270	-44,361	-7,349
Richmond, Fred. & Potomac.....Aug. 117	8 mos.	479,499	274,499	753,998	117,491	109,064	1,832	60.70	449,885	331,122	-52,130	87,462
Rutland.....Aug. 415	8 mos.	245,659	160,582	406,241	30,516	8,288	756	76.80	27,217	27,062	45,956	11,235
St. Louis-San Francisco.....Aug. 415	8 mos.	1,996,708	979,907	2,976,615	114,586	103,852	1,832	114.60	-99,055	-107,730	-12,437	76,407
St. Louis-San Francisco & Tex.....Aug. 134	8 mos.	144,730	1,759,927	1,904,657	144,195	131,572	32,975	91.40	16,509	9,073	41,989	-43,972
Ft. Worth & Rio Grande.....Aug. 235	8 mos.	82,972	30,225	113,197	28,603	442,529	122,231	114.90	398,538	189,476	471,908	-176,984
St. Louis, San Francisco & Tex.....Aug. 134	8 mos.	144,730	1,759,927	1,904,657	144,195	131,572	32,975	130.90	-209,131	-228,042	-236,688	-147,395
St. Louis Southwestern.....Aug. 968	8 mos.	1,322,020	122,678	1,444,698	100,369	83,583	15,418	97.80	2,027	-1,898	-8,501	-56,239
St. Louis Southwestern of Tex.....Aug. 807	8 mos.	480,731	86,039	566,770	339,467	175,508	21,646	103.40	274,315	221,936	194,920	99,147
San Antonio & Aransas Pass.....Aug. 739	8 mos.	430,014	89,126	519,140	31,407	25,869	50,522	65.90	2,429,564	2,029,217	1,657,970	758,900
San Antonio, Uvalde & Gulf.....Aug. 317	8 mos.	2,682,547	550,626	3,233,173	339,467	175,508	21,646	88.30	129,498	113,690	-59,976	-324,682
Seaboard Air Line.....Aug. 3,563	8 mos.	2,367,958	647,448	3,015,406	128,755	193,920	37,483	57.90	632,674	543,119	498,963	431,182
Southern.....Aug. 6,971	8 mos.	5,927,730	2,712,097	8,639,827	1,577,407	1,577,407	338,908	62.70	4,169,253	3,625,251	3,302,594	3,025,944
Alabama Grt. Southern.....Aug. 318	8 mos.	172,843	157,910	330,753	98,292	84,101	19,504	103.90	4,169,253	3,625,251	3,302,594	3,025,944
Cin., N. O. & Tex. Pacific.....Aug. 338	8 mos.	4,074,395	1,192,025	5,266,420	730,424	844,101	75,175	117.20	-799,636	-992,555	-930,838	-884,129
Georgia, Southern & Fla.....Aug. 402	8 mos.	1,967,882	90,940	2,058,822	87,511	98,292	19,504	75.70	134,045	120,336	111,809	165,175
New Orleans & Northwestern.....Aug. 207	8 mos.	69,593	787,664	857,257	47,059	58,559	15,517	99.30	22,960	-89,615	-180,284	-114,851
Northern Alabama.....Aug. 110	8 mos.	83,234	12,993	96,227	20,005	5,981	47,093	67.40	33,503	30,514	17,174	92,166
Southern Pacific.....Aug. 7,119	8 mos.	11,086,658	4,138,980	15,225,638	143,229	143,229	10,372	86.00	477,041	301,381	46,687	-166,175
	8 mos.	75,256,317	29,536,107	104,792,424	2,040,772	2,040,772	234,212	79.70	2,136,725	4,513,619	2,403,682	481,489
	8 mos.	115,875,721	45,637,135	161,512,856	5,981,047	5,981,047	1,875,117	77.60	17,877,669	14,081,651	11,232,869	4,989,232
	8 mos.	115,875,721	45,637,135	161,512,856	5,981,047	5,981,047	1,875,117	133.50	-125,461	-167,025	-182,666	63,640
	8 mos.	115,875,721	45,637,135	161,512,856	5,981,047	5,981,047	1,875,117	80.80	1,070,034	723,277	701,376	413,626
	8 mos.	115,875,721	45,637,135	161,512,856	5,981,047	5,981,047	1,875,117	167.10	-395,764	-444,895	-569,587	180,968
	8 mos.	115,875,721	45,637,135	161,512,856	5,981,047	5,981,047	1,875,117	82.20	1,915,039	1,336,573	965,550	1,205,154
	8 mos.	115,875,721	45,637,135	161,512,856	5,981,047	5,981,047	1,875,117	89.10	34,452	15,723	15,402	-59,738
	8 mos.	115,875,721	45,637,135	161,512,856	5,981,047	5,981,047	1,875,117	83.50	501,368	359,455	214,241	-42,737
	8 mos.	115,875,721	45,637,135	161,512,856	5,981,047	5,981,047	1,875,117	191.30	167,145	-167,145	-167,145	-63,375
	8 mos.	115,875,721	45,637,135	161,512,856	5,981,047	5,981,047	1,875,117	92.50	267,274	-39,309	-110,130	-240,375
	8 mos.	115,875,721	45,637,135	161,512,856	5,981,047	5,981,047	1,875,117	77.50	22,265	18,266	-8,234	306
	8 mos.	115,875,721	45,637,135	161,512,856	5,981,047	5,981,047	1,875,117	65.10	301,128	268,773	76,249	-67,378
	8 mos.	115,875,721	45,637,135	161,512,856	5,981,047	5,981,047	1,875,117	67.90	5,364,619	4,031,153	3,782,153	4,405,607
	8 mos.	115,875,721	45,637,135	161,512,856	5,981,047	5,981,047	1,875,117	71.80	32,638,848	21,842,402	20,973,103	21,088,790

REVENUES AND EXPENSES OF RAILWAYS
MONTH OF AUGUST AND EIGHT MONTHS OF CALENDAR YEAR 1922—CONTINUED

Name of road.	Average mileage operated during period.	Operating revenues—Total			Operating expenses			Operating ratio.	Net from railway operations.	Operating income (or loss).	Net after rentals 1921.
		Freight.	Passenger.	(inc. misc.)	Maintenance of way and structures.	Equipment.	Traffic.				
Arizona Eastern	Aug. 382	\$230,351	\$25,820	\$267,448	\$41,658	\$37,488	\$79,412	67.31	\$87,438	\$39,985	\$29,436
Atlantic S. S. Lines	Aug. 382	1,739,938	225,130	2,061,969	262,297	234,248	596,558	90.30	783,470	1,698,053	482,025
Galv., Harris, & San Ant.	Aug. 923	865,746	57,223	922,969	14,556	231,001	559,486	63.10	1,264,558	1,168,852	133,948
Houston & West Tex.	Aug. 191	6,704,967	409,705	7,496,861	99,112	1,435,013	152,642	79.10	390,523	330,862	423,995
Louisiana Western	Aug. 1379	1,397,819	356,218	1,872,596	229,524	323,939	37,266	79.10	2,110,274	1,698,053	1,276,507
Morgan's La. & Tex. R.R. & S.S. Aug. 400	Aug. 1379	10,206,683	2,988,227	13,883,419	2,911,613	2,724,953	295,904	84.00	305,674	259,621	1,208,950
Texas & New Orleans	Aug. 507	6,312,125	2,306,863	9,213,478	1,713,122	1,824,590	189,732	80.20	1,823,041	1,468,719	1,208,950
Spokane International	Aug. 165	249,083	47,123	308,215	56,832	55,650	3,981	76.20	73,482	66,650	42,556
Spokane, Portland & Seattle	Aug. 191	1,581,593	329,592	1,911,185	409,227	407,088	27,636	85.00	224,817	249,898	109,117
Tennessee Central	Aug. 207	213,293	88,157	301,450	65,085	58,989	24,025	80.20	70,871	38,636	43,199
Term. R.R. Assn. of St. Louis	Aug. 37	1,828,669	693,701	2,709,674	523,703	515,737	813,525	77.40	612,636	413,704	436,954
East St. L. Connecting	Aug. 1	82,873	17,859	107,943	123,760	141,992	14,974	65.10	37,691	32,214	25,467
St. L. Mchts. Bridge Term.	Aug. 9	604,616	172,044	776,660	1,101,746	1,168,473	266,158	65.10	209,940	166,006	129,014
St. Louis Transfer	Aug. 1,952	3,093,460	1,140,274	4,663,336	439,301	683,982	82,622	64.50	1,649,587	975,801	879,178
Texas & Pacific	Aug. 6	1,835,284	4,659,093	3,476,479	3,730,461	3,730,461	383,622	64.50	1,003,038	2,566,346	2,039,480
Toledo, Peoria & Western	Aug. 247	95,418	35,047	147,012	10,954	13,794	262	83.30	10,191	9,293	23,657
Toledo, St. Louis & Western	Aug. 454	630,121	348,332	1,069,435	196,585	251,167	47,935	83.30	93,165	520,090	471,163
Trinity & Brazos Valley	Aug. 368	940,709	42,605	1,025,764	133,490	132,197	20,497	80.90	620,581	2,566,346	2,039,480
Ulster & Delaware	Aug. 128	6,239,341	236,862	6,839,989	838,755	1,084,193	171,210	76.30	3,443,918	2,566,346	2,039,480
Union	Aug. 45	1,835,284	4,659,093	3,476,479	3,730,461	3,730,461	383,622	87.70	18,747	17,315	157,563
Union Pacific	Aug. 3,686	46,264,042	11,448,273	63,731,340	7,760,594	7,760,594	1,511,279	87.70	228,463	31,229	55,701
Oregon Short Line	Aug. 2,359	2,284,458	577,298	3,103,085	574,960	515,809	42,394	87.70	343,570	2,143,994	2,682,025
Oregon, Wash. R. R. & Nav.	Aug. 2,327	1,792,102	3,683,727	22,076,635	3,621,566	3,621,566	319,278	67.10	2,255,739	2,718,482	2,662,815
St. Joseph & Grand Island	Aug. 102	1,099,671	25,553	275,271	185,632	286,600	10,487	70.10	19,032,825	14,412,807	14,194,894
Utah	Aug. 526	1,186,395	76,748	1,345,294	1,345,294	1,345,294	1,345,294	68.60	421,892	271,930	294,718
Virginian	Aug. 526	1,186,395	76,748	1,345,294	1,345,294	1,345,294	1,345,294	68.60	421,892	271,930	294,718
Wabash	Aug. 804	1,434,222	112,032	1,546,254	266,964	272,772	37,342	82.40	295,341	235,341	256,948
Western Maryland	Aug. 804	6,830,220	650,420	7,480,640	1,124,213	1,124,213	1,124,213	82.40	2,538,410	2,168,410	2,005,475
Western Pacific	Aug. 1,043	5,262,211	1,332,303	7,317,294	1,298,655	1,298,655	1,298,655	83.30	1,079,550	1,079,550	1,079,550
Wheeling & Lake Erie	Aug. 511	7,729,463	568,044	8,995,182	1,455,069	1,455,069	1,455,069	79.00	1,891,984	1,008,180	802,616

Shop Strike Leaders Ask for

Jury Trial in Injunction Case

Leaders of the recent strike of railroad shopmen, named in the temporary injunction obtained by Attorney General H. M. Daugherty, will seek a trial by jury in an effort to balk the government's move for a permanent restraining order. This announcement, which was hinted at in recent Federal Court proceedings at Chicago, was definitely made on October 13 by Donald R. Richberg, attorney for B. M. Jewell and the other strike leaders. Mr. Richberg formally presented his motion for this procedure to the court on October 16.

At the same time it became known that a motion by Blackburn Esterline, assistant solicitor general, that hearings on the government's request for a permanent injunction be referred to a master in chancery, was granted by Judge James H. Wilkerson.

J. M. Dickinson, secretary of war under President Taft and formerly counsel for the Illinois Central, has been appointed special assistant to Attorney General Daugherty and placed in charge of the government's case against the strike leaders. The appointment of Mr. Dickinson is part of the announced plan to prosecute vigorously the injunction suit now pending before Judge Wilkerson.

Sixteen Roads Sign Agreements

With New Shop Organizations

Railroads representing a total mileage of approximately 55,910 miles have signed agreements with "company unions," according to information recently given out by the Railroad Labor Board. This mileage does not include the Pennsylvania System, which was conducting negotiations with its employees through "company unions" before the shop crafts strike began. The new agreements provide, in effect, that the men waive their right to strike and the companies pledge themselves not to carry their controversies into the court, both parties agreeing to abide by the decisions of the Labor Board.

The 16 roads which have signed agreements with new organizations of their employees and which are included in the Labor Board's announcement are: The Southern Pacific (Pacific System); the Missouri, Kansas & Texas; the Southern Pacific, Texas and Louisiana Lines; the Nashville, Chattanooga & St. Louis; the Central of Georgia; the New York, New Haven & Hartford; the Chicago, Burlington & Quincy; the Colorado & Southern; the Great Northern; the Lehigh Valley; the International Great Northern; the Union Pacific; the Illinois Central; the Florida East Coast; the Trinity & Brazos Valley, and the San Antonio, Uvalde & Gulf.

Consolidation Hearings to be Resumed

The Interstate Commerce Commission has announced that hearings on its tentative consolidation plan will be resumed before Commissioner Hall and Examiner Healy at Washington, November 17. Evidence will be received with respect to carriers which, under the tentative plan, should be considered in connection with the following proposed systems as there outlined, or in connection with such alternative systems as may be proposed:

System No. 14—Burlington—Northern Pacific.

Chicago, Burlington & Quincy—Northern Pacific.

Chicago Great Western—Minneapolis & St. Louis.

*Spokane, Portland & Seattle.

System No. 15—Milwaukee—Great Northern.

Chicago, Milwaukee & St. Paul—Great Northern.

Chicago, Terre Haute & Southeastern—*Duluth & Iron Range.

*Duluth, Missabe & Northern—*Green Bay & Western.

*Spokane, Portland & Seattle—*Butte, Anaconda & Pacific.

It is expected that the main affirmative case in respect of each carrier, particularly the documentary evidence, will be presented at the hearing in Washington. In proper case opportunity will be afforded at the western hearings for completing the record as to such carrier. *Carriers starred in the above list, and other carriers not listed, may introduce all their evidence at the western hearings if that course proves more convenient and the commission is so advised in advance. The western hearings will be held primarily to afford state commissions, communities and the public an opportunity to present such evidence as they may desire, and, also, to cross-examine witnesses heard at the Washington hearing,

provided the commission is so advised in season to enable it to arrange in proper case for the recall of witnesses for such subsequent cross-examination. The dates and places of the western hearings will be announced before the close of the Washington hearing.

War Finance Corporation Loans to

Railroads Repaid, All but Five Per Cent

The War Finance Corporation announced on October 10 that it had received from the Chicago, Rock Island & Pacific \$2,930,000, which represents repayment in full of the loans, aggregating \$10,430,000, made by the corporation to the railroad in December, 1918, and January, 1919, and reduced to the above amount by several partial payments. Under its war powers, the corporation advanced to steam railroads, either direct or through the director general of railroads, \$204,794,520. The repayments to date total \$194,794,520 and represent 95 per cent of the amount originally advanced. The \$10,000,000 still outstanding represents the extension of a portion of an advance of \$12,497,940 made to the Erie on April 1, 1919, and is covered by a note, payable upon demand on or after April 1, 1923, bearing interest at 6 per cent and secured by collateral having a market value of approximately \$15,000,000. The agreement with the Erie contains provisions under which the company may be required to substitute for the present note collateral trust notes in marketable form which the corporation may then sell at its option. The new notes would be secured by the same collateral listed above and would mature in not less than three years nor more than ten years from their date, as the War Finance Corporation may determine. They would be secured also by suitable provisions for redemption and would bear interest at not to exceed 7 per cent.

P. R. R. Women's Dance

The Women's Aid of the Pennsylvania Railroad held its grand ball at the Seventy-first Regiment Armory, Thirty-fourth street, New York City, on October 12, in accordance with announcement made some weeks ago, and the affair is pronounced a great success. About 17,000 tickets had been sold—far more than the number of persons who could get into the hall—and a good sum is realized for the uses of the "Aid." The gathering was said to be one of the largest of Pennsylvania Railroad officers, employees and members of their families that was ever assembled at a similar social gathering in the history of the Pennsylvania Railroad. Special trains brought large delegations from Atlantic City, Camden, Philadelphia, Trenton and other points on the New Jersey Division. In the entertainment there were many professional artists as well as talented employees of the road. The Car Service Department Glee Club from Philadelphia, numbering about 50 men, rendered many delightful vocal selections. At the conclusion of the entertainment a 1922 Sport Model automobile, given by the Haynes Motor Car Company of New York, was given to the person holding the admission ticket containing a certain lucky number, J. Weinberger, of New York City. The Women's Aid now has a membership of about 75,000. Among the officers of the railroad who came to New York from Philadelphia to attend the function, accompanied by their wives, were: General W. W. Atterbury, Elisha Lee, C. S. Krick and R. V. Massey. R. J. Sauer, secretary to General Superintendent C. I. Leiper, was chairman of the Committee of Arrangements.

I. C. C. Denies Permission to Inspect

Valuation Records and Data

The Interstate Commerce Commission has denied the request of certain carriers to be permitted to examine and make copies, written and photographic, of the original field notes, cost data, copies of contracts, records of construction costs, opinions, sales, assessments and other data reports, records and compilations of the land, accounting and engineering sections of the bureau of valuation. After having considered fully the representations of the carriers and a brief submitted, the commission issued an order saying:

"That the opening of certain records and data of the bureau of valuation to inspection and examination by other than employees of the commission unless and until they shall have been offered in evidence in hearings before the commission upon pro-

tests against the tentative valuations of carriers' properties, or before a court of competent jurisdiction, would be detrimental to the public interest; would make it impossible for the commission to secure as reliable and uninfluenced opinions as to land values and price and cost information as it can otherwise secure; would unnecessarily prolong the work, and greatly increase the expense thereof; and would seriously interfere with due performance of the regular duties of the commission's employees."

It was ordered, "That, until the further order of the commission, office or field notations and memoranda in the bureau of valuation, and opinions or correspondence from or to any branch or employee thereof; land field notes; land computation sheets; cost information secured from manufacturers, dealers, contractors, private parties or carriers other than the carrier making the application for permission to inspect; cost studies and cost analyses prepared by the employees of the bureau of valuation, shall not be open for inspection by other than employees of the commission unless and until offered in evidence either in a valuation hearing under the provisions of section 19a of the interstate commerce act or in a court of competent jurisdiction."

Portable Receiving Set with Loop

Antenna Used Inside Steel Coach

Wireless radio messages were received successfully inside a moving steel coach without the aid of an outside aerial on the Pennsylvania train No. 29, the Broadway Limited leaving New York on the run to Chicago, on October 13. On leaving the tubes under the Hudson river, the afternoon program of the W.O.R. broadcasting station at Newark, N. J., was picked up and the remainder of the concert received satisfactorily during the run towards Philadelphia. It is significant that while passing over the electrified section of the road from North Philadelphia

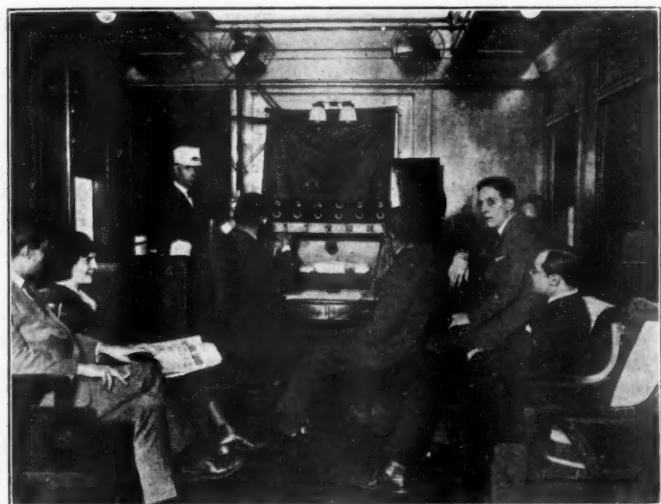


Photo by International

Receiving with a Loop Antenna Within a Steel Car

to Paoli the concerts and organ solo from a broadcasting station in Philadelphia were received without any interference or crackling due to the propulsion circuits. After passing Pittsburgh about midnight when all broadcasting was shut down, code messages from boats on Lake Superior and from the Great Lakes Naval Station were received.

The receiving equipment consists of a tuned 18 in. loop antenna, three steps of amplification, audion detector and two steps of audio frequency amplification. No connections or alterations were made to the steel car, the set being entirely self-contained and compact enough to be packed in a small trunk. The apparatus was furnished by the E-D Manufacturing Company of Philadelphia, Pa., and was set up and operated by Arno Zillger, chief engineer of the company; J. D. Jones, superintendent of telegraph and signals on the Eastern region of the Pennsylvania being the official observer representing the railroad. The E-D Manufacturing Company is now developing a transmitting and receiving set for duplex conversation on long freight trains between the engineer in the cab and the conductor in the caboose. It is claimed

that a special equipment has been invented by which the conductor can call and automatically put in operation the receiving apparatus on the locomotive.

Valuation Hearings

The following valuation cases are set for oral argument before the Interstate Commission on November 1:

Valuation Docket No.	Carrier.
2	Texas Midland Railroad Company.
5	Winston-Salem Southbound Railway Company.
6	Elgin, Joliet & Eastern Railroad Company.
15	Tonopah & Tidewater Railroad Company.
21	Carolina Railroad Company.
31	Norfolk Southern Railroad Company.
37	Kinston-Carolina Railroad Company.
60	Central of Georgia Railway Company.
102	Riverside, Rialto & Pacific Railroad Company.
127	Ann Arbor Railroad Company.
159	New York, Philadelphia & Norfolk Railroad Company.

The following valuation cases have been set for hearing at Washington, upon protests to tentative valuations, before the examiners and on the dates named:

Valuation Docket No.	Carrier.	Examiner.	Date.
149	Mobile & Ohio Railroad Co.	Marchand	Oct. 20, 1922
150	Bangor & Arcostook R. R. Co.	Sweet	Oct. 20, 1922
192	New York, Ontario & West'n R. R. Co.	Sweet	Oct. 23, 1922
22	Hampton & Branchville R. R. Co.	Kelley	Oct. 25, 1922
24	New Mexico Midland Ry. Co.	Kelley	Oct. 26, 1922
49	Savannah & Northwestern Ry.	Kelley	Oct. 27, 1922
18	Georgia Northern R. R. Co.	Marchand	Nov. 6, 1922
36	Flint River & Northwestern Ry.	Marchand	Nov. 6, 1922
94	Hoosac Tunnel & Wilmington Ry.	Kelley	Nov. 6, 1922
77	Woodriver Branch R. R. Co.	Kelley	Nov. 6, 1922
111	Crafton & Upton R. R. Co.	Kelley	Nov. 6, 1922
64	Goldsboro Union Station Co.	Sweet	Nov. 6, 1922
100	Pacific & Idaho Northern Ry.	Marchand	Nov. 8, 1922
66	Hardwick & Woodbury R. R. Co.	Sweet	Nov. 8, 1922
114	Manistique & Lake Superior R. R. Co.	Kelley	Nov. 8, 1922
88	Gulf, Texas & Western Ry. Co.	Sweet	Nov. 13, 1922
35	Carolina & Yadkin River R. R.	Marchand	Nov. 13, 1922
82	Montana Western Ry. Co.	Marchand	Nov. 15, 1922
93	Gulf Terminal Company	Marchand	Nov. 16, 1922
143	Kankakee & Seneca R. R. Co.	Marchand	Nov. 17, 1922
3	New Orleans, Texas & Mexico R. R. Co.	Sweet	Nov. 20, 1922
86	Trinity & Brazos Valley R. R.	Kelley	Nov. 20, 1922
84	Peoria Railway Company	Pattison	Nov. 20, 1922
221	Boston & Maine Railroad Co.	Marchand	Nov. 20, 1922
123	St. Johnsbury & Lake Champlain Railroad Co.	Marchand	Nov. 21, 1922
11	St. John & Ophir Railroad Co.	Sweet	Nov. 22, 1922
116	Montpelier & Wells River Ry.	Pattison	Nov. 22, 1922
138	Monroe Railroad Company	Pattison	Nov. 23, 1922
168	Chicago, Indianapolis & Louisville R. R. Co.	Kelley	Nov. 23, 1922
46	Joplin Union Depot Company	Sweet	Nov. 24, 1922
165	Baltimore & Sparrow's Point R. R. Co.	Pattison	Nov. 24, 1922
32	Farmers Grain & Shipping Co.	Sweet	Nov. 27, 1922
169	Paris & Mt. Pleasant R. R. Co.	Pattison	Nov. 27, 1922
188	Durham & South Carolina R. R.	Pattison	Nov. 28, 1922
124	Sugarland Railroad Company	Marchand	Dec. 1, 1922
193	Artesian Belt Railroad Co.	Pattison	Dec. 1, 1922
137	Sunset Railway Company	Marchand	Dec. 2, 1922
12	Missouri Southern Railroad Co.	Sweet	Dec. 4, 1922
151	Florida East Coast Railroad Co.	Pattison	Dec. 4, 1922
19	Death Valley Railroad Company	Marchand	Dec. 6, 1922
152	Chicago, Rock Island & Pacific Ry. Co.	Kelley	Dec. 7, 1922
195	Central Union Depot Company	Pattison	Dec. 8, 1922
192	Toledo, St. Louis & Western Ry.	Pattison	Dec. 11, 1922
201	Minneapolis Western Railway	Pattison	Dec. 18, 1922

The Bureau of Valuation has filed its brief in support of the supplemental tentative valuation of the properties of the Winston-Salem Southbound Railway Company, Valuation Docket No. 5.

Rate of Return for Two Years 3.47 Per Cent

The Association of Railway Executives has issued a statement calling attention to the fact that during the first two years since the general rate increase became effective on August 26, 1920, the railroads of the United States have failed by a wide margin to earn a return of 6 per cent on their tentative valuation. For the 24 months period ended on August 31, the net operating income of the railroads was only at the annual rate of return of 3.47 per cent.

"The Transportation Act when passed by Congress proposed that rates be so fixed as to yield the carriers a return of 6 per cent on their tentative valuation," says the statement. "This provision was to stand for two years ending on March 1, 1922. After that date the Interstate Commerce Commission was authorized to fix the rate. This the commission did recently, prescribing that the rate be 5¾ per cent, which is now in effect. Since the general rate increase went into effect on August 26,

1920, thousands of reductions have been made both voluntarily by the carriers and also by order of the Interstate Commerce Commission. There was a guarantee provided for in the Transportation Act to cover the first six months after the government relinquished federal control on March 1, 1920, but this terminated automatically on September 1 that year. Under this guarantee the railways were assured of earning the same net income as during the period of federal control. If their earnings proved insufficient to provide the net income so guaranteed, the deficiency was made up by the government out of the public treasury. This six months' guarantee was provided for the purpose of enabling the railroads to get on their feet after 26 months of federal control. Since September 1, 1920, however, there has been no guarantee to the railroads and even though the Transportation Act provides for the fixing of a certain rate level, there is nothing whatever in the act to assure the roads that such a level will enable them to realize any fixed return. If the railways fail to earn the rate of return so fixed, the deficiency is not made up by the government, but is borne by the carriers themselves.

"In computing the rate of return no consideration is given by the commission, whatever, to the capitalization of the roads, but the compilation is based solely on the valuation of the railroads of the country as tentatively fixed by the Interstate Commerce Commission for rate making purposes.

"During the first 12 months which ended on August 31 last year, the railroads had a net operating income of \$523,598,172, which was at the annual rate of return of 2.81 per cent on their tentative valuation. During the second year the net operating income amounted to \$781,673,377, or at the annual rate of 4.10 per cent. The net operating income for the two years totaled \$1,305,271,549.

"The railroads in the Eastern district during the two year period had a net operating income of \$590,006,537, which was at the annual rate of return of 3.46 per cent. Those in the Southern district had a net operating income of \$135,630,903 or 3.09 per cent. For the railroads in the Western district the rate of return amounted to 3.57 per cent, net operating income having totaled during the 24 months period \$579,634,109."

Revenues and Expenses for August

The Interstate Commerce Commission's summary of railway returns for August is as follows:

Item	August		Eight months	
	1922	1921	1922	1921
Average number of miles operated....	235,095.59	234,955.69	235,229.32	234,818.00
Revenues:				
Freight	\$326,485,824	\$353,814,886	\$2,491,204,487	\$2,539,370,491
Passenger	101,501,625	109,192,034	705,065,952	793,089,978
Mail	7,292,532	7,449,539	59,166,744	63,876,543
Express	12,201,354	10,309,299	81,043,828	60,117,921
All other transportation	14,935,858	14,378,241	113,630,618	105,495,540
Incidental	10,900,742	9,844,240	73,145,610	79,255,919
Joint facility—Cr.	747,119	610,409	6,644,780	5,123,647
Joint facility—Tr.	187,974	133,617	1,399,821	1,092,438
Railway operating revenues	473,877,080	505,732,265	3,528,502,198	3,645,237,601
Expenses:				
Maintenance of way and structures....	68,706,324	71,941,028	480,206,020	507,460,950
Maintenance of equipment	104,056,949	105,403,201	773,792,749	842,335,999
Traffic	7,236,029	6,822,954	57,710,675	56,770,958
Transportation	190,801,031	180,830,319	1,363,064,112	1,556,598,510
Miscel. operations....	4,356,178	4,163,779	31,327,920	33,552,856
General	12,636,796	13,466,110	104,471,306	114,451,672
Transportation for investment—Cr.	693,129	521,490	4,121,123	3,925,284
Railway operating expenses	387,100,178	382,105,901	2,806,451,659	3,107,245,661
Net revenue from railway operations....	86,776,902	123,626,364	722,050,539	537,991,940
Railway tax accruals....	26,873,500	26,251,763	200,327,272	183,584,799
Uncollectible railway revenues	133,816	125,206	905,274	784,313
Railway operating income	59,769,586	97,249,395	520,817,993	353,622,828
Equipment rents—				
Dr. balance.....	5,460,440	5,653,323	37,537,091	34,963,965
Joint facility rent—Dr. balance.....	1,729,349	1,435,870	12,097,303	12,595,264
Net railway operating income.....	52,579,797	90,160,202	471,183,599	306,063,599
Ratio of expenses to revenues (per cent)	81.69	75.55	79.54	85.24

¹Does not include Boston & Albany, the revenues and expenses of which are included in New York Central report.

²Includes \$3,256,049, sleeping and parlor car surcharge.

³Includes \$2,933,454, sleeping and parlor car surcharge.

⁴Includes \$21,140,064, sleeping and parlor car surcharge.

⁵Includes \$21,772,291, sleeping and parlor car surcharge.

Traffic News

The Northern Pacific restored observation cars on ten of its fast passenger trains on October 7.

M. A. Keith has been appointed traffic manager of the International Derrick & Equipment Company, Columbus, Ohio.

The Kansas City, Mexico & Orient of Texas has been given an increase in freight rates by the railroad commission of that state to the amount of 10 cents per 100 lb. to accrue locally and in the divisions.

The Southern Pacific, on October 17, reduced its freight rates on a number of commodities including automobiles, automobile parts, cotton and cotton linters, when for export from the East to Pacific Coast ports. The reductions range as high as 20 per cent.

The officers and directors of the Associated Traffic Clubs of America met in Cleveland, Ohio, on October 17 and 18, to plan a definite constructive policy for that organization. During the summer a number of new clubs were enrolled. Twenty-eight clubs from as many cities are now members of the association.

The Traffic Club of Des Moines, Iowa, has recently elected the following officers: President, S. W. Leigh, manager, Des Moines Hosiery Mills; vice-president, C. M. Cheney, general manager, Des Moines & Central Iowa; secretary and treasurer, C. A. Moore, general agent, Atchison, Topeka & Santa Fe Railway.

Shippers opposed to the Southern Pacific's efforts to retain the Central Pacific are threatening to organize committees in every county of southern California to take an active part in the campaign being waged by the California Producers' and Shippers' Association to endorse the decision of the Supreme Court, separating the Central Pacific from the Southern Pacific. E. G. Judah, chairman of the southern California committee, says that a membership drive is under way and that civic and commercial bodies of every section of the State are joining the campaign.

Commission Amends Coal Order

The Interstate Commerce Commission on October 18 issued Amendment No. 1 to Service Order No. 25 providing that from and after October 23 the supply and distribution of open top cars suitable for the loading and transportation of coal to wagon mines shall be subject to the following rule:

Upon any day when any such common carrier by railroad is unable to supply mines upon its line with the required number of open top cars, such cars shall not be furnished or supplied by it to any mine which customarily does not load or is unable to load such cars with coal within 24 hours from and after the time of placement until all mines upon the line of any such carriers have been fully supplied with such cars.

It also adds foundry sand and materials for car and locomotive construction or repair to the list of commodities which may be loaded in open top cars in the direction of but not beyond the mine or mines to which such open top cars are destined for coal loading.

Coal Production

Complete returns on soft coal production for the week ended October 14 will show about 9,900,000 tons, according to the estimate of the Geological Survey. During the five weeks just closed the output has been at an almost uniform rate varying little from an average of about 9,780,000 tons.

The number of cars loaded on Monday, October 9, as reported by the railroads, was 40,596, the largest reported this year; but on Tuesday loadings fell off to 29,239 cars, a figure exceeded on several Tuesdays since the close of the strike. The total cars loaded on the first four days of the week shows an increase of 3.9 per cent as compared with the same days of the week before. Full returns on loadings for the week are expected to show an output of 9,800,000 to 10,000,000 tons.

Since the first of September coal has been offered for shipment up to the ability of the carriers to handle it. Production of bituminous coal in the second week of October of the past six years has been as follows:

	Tons		Tons
1917.....	10,924,000	1920.....	12,103,000
1918.....	12,190,000	1921.....	9,711,000
1919.....	11,888,000	1922, about.....	9,900,000

Production of anthracite has increased slightly and may reach a total of 2,000,000 net tons for the week. According to present indications the total of all coal raised is therefore about 11,900,000 tons, which is too low to meet current consumption and the heavy movement up the Lakes, and at the same time to rebuild consumers' stocks.

The aggregate of tidewater shipments from Atlantic ports increased to 2,224,000 net tons in the month of September. In comparison with August this was an increase of 404,000 tons or 18 per cent, which was distributed between all ports except Hampton Roads. The total shipments from Hampton Roads decreased although the shipments to New England points increased.

The effects of the strike are reflected in a table which shows that the total of 21,213,000 net tons dumped during the first nine months of this year is 11,000,000 tons, or more than one-third less than the average for the corresponding periods of the three years preceding. The principal decline was in tonnage for export—a drop from an average of nearly 10,000,000 to 1,357,000 tons. Bunker coal decreased nearly one-half. On the other hand, shipments to New England were increased markedly in the effort to offset the decline in all-rail shipments brought about by the strike.

In the opening weeks of the present navigation season only a very small tonnage of anthracite was shipped up the lakes. Following that practically none was moved during the summer. About the middle of September shipments were resumed. The cumulative tonnage moved now stands at less than 5 per cent of the tonnage moved in the corresponding period of 1921.

Although dumpings of soft coal into vessels at Lake Erie piers continued at a high rate, there was a slight decrease in the tonnage handled during the week ended October 8 as compared with the preceding week. The Ore and Coal Exchange reports the total handled during the week ended October 8 as 1,179,298 net tons, as against 1,245,373 tons in the week before. In comparison with the corresponding week a year ago, this was an increase of 56 per cent. Of the total dumpings 1,142,332 tons were cargo coal and 36,966 tons were vessel fuel. During the present season to October 8, inclusive, 10,836,083 tons of cargo coal have been dumped into vessels at Lake Erie piers. Of this quantity 9,829,091 tons were forwarded to regular lake markets and 1,006,992 tons were forwarded to Lake Erie destinations not ordinarily taking lake coal. Preliminary reports of dumpings during the first 2 days of the week show a decrease of about 15 per cent as compared with dumpings on corresponding days of the week before.

Complete reports received later by the Car Service Division of the American Railway Association show that more cars were loaded with coal during the week ended October 14 than on any previous week since the coal strike began on April 1. The total for the week was 220,751 cars. This exceeded the week before by 8,773 cars, and exceeded by 4,539 cars the week preceding that.

On the basis of the loading, coal production during the week approximated 11,950,000 tons, the greatest amount produced during any one week since the strike began. Of this amount, 10,037,000 tons were bituminous and 1,913,000, anthracite coal. Production for the previous week was approximately 11,478,000 tons, and for the week before 11,713,000 tons.

Loading of bituminous coal last week amounted to 182,489 cars, 6,589 above the week before. Anthracite loading amounted to 38,262 cars, which represents an increase of 2,184 over the week before.

A total of 41,201 cars were loaded with bituminous coal on Monday, October 16. This was the largest number loaded on any one day with bituminous coal since December 20, 1920, when the total was 42,004 cars. Loadings on Monday exceeded by 605 cars the preceding Monday, which up to that time had been the high point. It also exceeded the daily average for October last year by more than 10,000 cars, and the daily average for September this year by more than 12,600 cars.

Commission and Court News

Interstate Commerce Commission

The commission has suspended from October 15, until February 12, 1923, the operation of schedules which propose increases in the rates on building and roofing paper, and prepared roofing, carloads, from Cincinnati, Lockland, Carthage, Ohio and other points in Ohio and Indiana to St. Paul and Duluth, Minn.

The commission has suspended from October 17 until February 14, 1923, the operation of schedules published in Agent R. H. Countiss' tariff which propose to reduce the rates on imported shipments of vegetable oils from Pacific Coast points to certain points in Central Freight Association Territory, from 105 to 75 cents per 100 pounds.

The commission has suspended from October 15 until February 12, 1923, the operation of schedules which propose to revise the class rates from Southeastern Freight Association territory to all destinations in Mississippi Valley Freight territory. The proposed changes would result in both increases and reductions in existing rates from and to the points mentioned.

The commission has suspended from October 16, and later dates, until February 13, 1923, the operation of schedules contained in tariffs of various carriers and E. B. Boyd, B. T. Jones and F. L. Speiden, agents. The suspended schedules which are principally published by lines in Official Classification territory, propose to cancel the rule and reference to the rule for constructing combination rates on brick and articles taking brick rates and related articles.

Emergency Fourth Section Order for Cotton

By fourth section order and by special permissions dated October 12, the commission has granted applications of the Illinois Central and Yazoo & Mississippi Valley and other carriers parties to Agent J. H. Glenn's eastern cotton tariff to establish on five days' notice rates on cotton, cotton linters or regins from stations on the Illinois Central, Yazoo & Mississippi Valley and Chicago, Memphis & Gulf to Baltimore, Philadelphia, New York, Boston and other destinations in eastern territory named in the tariff via New Orleans, and the Southern Pacific Atlantic Steamship Lines (Morgan Line) the same as the rates currently in effect via all-rail and rail-and-water routes through Atlantic ports, without observing the long-and-short-haul provision of the fourth section, combinations on New Orleans or other points which may make lower rates to be observed as maximum in all cases.

An emergency is alleged to exist in that the all-rail and rail-and-water routes through Ohio river crossings and Virginia cities over which cotton produced in the Mississippi Valley is ordinarily transported to trunk line and New England territory mill points are either closed by embargoes or so congested as to prevent prompt movement and the establishment of the proposed rates is intended to relieve this emergency and permit shipment of cotton from the Mississippi Valley via New Orleans through which port no joint through rates have heretofore been in effect. The relief as granted is limited to January 1, 1923, and is intended by the commission strictly as an emergency measure to relieve existing conditions and not as a permanent adjustment.

United States Supreme Court

The United States Supreme Court on October 16 dismissed three suits brought by Minnesota state officials to contest the right of the Interstate Commerce Commission to order increased passenger and baggage rates for intrastate transportation. The cases grew out of the state rate orders issued by the Interstate Commerce Commission following its increase of interstate rates in 1920. No opinion was written by the court, but the suits were dismissed on the authority of cases cited, including principally the Wisconsin case.

Equipment and Supplies

Locomotives

THE TOLEDO TERMINAL contemplates buying 3 switching locomotives.

THE DENVER & RIO GRANDE is inquiring for 10 Mountain type locomotives.

THE WESTERN PACIFIC contemplates buying 5 Mikado type locomotives.

CHICAGO, ST. PAUL, MINNEAPOLIS & OMAHA contemplates buying 15 locomotives.

THE CHICAGO, MILWAUKEE & ST. PAUL is inquiring for 50 Mikado type locomotives.

THE RICHMOND, FREDERICKSBURG & POTOMAC is inquiring for 2, 8-wheel switching locomotives.

THE GRAND TRUNK is inquiring for 10, 6-wheel switching locomotives and 10, 8-wheel switching locomotives.

THE NORTHERN PACIFIC, reported in the *Railway Age* of September 23 as contemplating issuing inquiries for from 50 to 80 miscellaneous type locomotives, is inquiring for 20 Mikado type, 20 Pacific type, 15 switching locomotives and 4 Mallet type locomotives.

THE BALTIMORE & OHIO has ordered from the General Electric Company 2, 120-ton, 600 volt, direct current electric locomotives to be delivered in March, 1923. The locomotives will be practically duplicates of those now in use in the Detroit tunnel on the Michigan Central.

THE MINARETS & WESTERN has ordered 5 Mikado type locomotives from the American Locomotive Company, of these 3 locomotives will have 24½ by 28 in. cylinders and a total weight in working order of 250,000 lb. and 2 locomotives will have 20 by 24 in. cylinders and a total weight in working order of 190,000 lb.

THE CHICAGO, ROCK ISLAND & PACIFIC, reported in the *Railway Age* of September 23 as inquiring for 30 Mikado type and 10 Mountain type locomotives, has ordered this equipment from the American Locomotive Company. The Mikado type engines will have 28 by 30 in. cylinders and a total weight in working order of 332,000 lb.; the Mountain type will have 28 by 28 in. cylinders and a total weight in working order of 369,000 lb.

Freight Cars

THE TEXAS COMPANY is inquiring for 100 tank cars.

THE NEW YORK, NEW HAVEN & HARTFORD is inquiring for 2 transformer cars.

THE NEW YORK CENTRAL will have 500 box cars repaired at the shops of the Streator Car Company.

THE ATLANTIC COAST LINE has ordered 500 steel underframes for box cars from the Standard Tank Car Company.

THE ERIE RAILROAD has given a contract to the Magor Car Company for making repairs to 500 cars; most of these are gondola cars.

THE TENNESSEE COAL, IRON & RAILROAD COMPANY has ordered 195 miscellaneous cars from the Chickasaw Ship Building Company.

THE PENNSYLVANIA COAL & COKE CORPORATION has ordered 1,000 hopper cars, of 50 tons' capacity, from the American Car & Foundry Co.

THE CUDAHY PACKING COMPANY, Chicago, will build 200 refrigerator cars in its shops at East Chicago. The cars are to be built in lots of 50.

THE VIRGINIAN RAILWAY is inquiring for from 500 to 1,000 flat bottom gondola cars of 100 tons' capacity, also for from 500 to 1,000 steel gondola cars of 120 tons' capacity.

THE NATIONAL REFINING CORPORATION, Hoboken, N. J., is inquiring for from 5 to 25 tank cars of 40 tons' capacity; also for the same number of cars of 50 tons' capacity.

THE PERE MARQUETTE reported in the *Railway Age* of October 14 as expected to come in the market for 2,000 cars, is now inquiring for 1,500 box cars and 500 hopper cars.

THE WESTERN PACIFIC, reported in the *Railway Age* of September 23 as inquiring for 100 automobile cars, has ordered this equipment from the Mount Vernon Car Manufacturing Company.

THE DETROIT, TOLEDO & IRONTON, reported in the *Railway Age* of October 14 as about to place an order for 500 to 1,000 coal cars, has ordered 500 cars from the Cambria Steel Company and 500 from the Standard Steel Car Company.

Passenger Cars

THE CUBA RAILROAD is building one business car in its shops at Camaguey, Cuba.

THE ARMS YAEGER COMPANY has placed an order with the Pullman Company for 14 horse cars.

NEW YORK CENTRAL.—Car builders are asking for prices on specialties for 20, 70-ft. steel coaches and 80, 60-ft. steel baggage cars, for the New York Central Lines.

THE LONG ISLAND, reported in the *Railway Age* of September 16 as contemplating inquiring for 90 cars for passenger service, is now asking for 40 motor cars, 20 electric trailer cars, 20 trailer coaches for steam suburban service, 10 coaches for steam service and 2 combination baggage and mail cars for steam service.

THE CENTRAL OF NEW JERSEY, reported in the *Railway Age* of October 14 as inquiring for 65 cars for passenger service, has ordered 30 all-steel coaches from the Standard Steel Car Company, 20 all-steel coaches, 10 steel baggage cars and 5 steel combination passenger and baggage cars from the American Car & Foundry Company.

Iron and Steel

THE SAN ANTONIO & ARANSAS PASS has issued an inquiry for 5,500 tons of rails.

THE MISSOURI, KANSAS & TEXAS has purchased five boilers, to be installed in the shops at Bellmead, Tex., from the Babcock & Wilcox Company, and the super-heaters for the boilers from the Superheater Company.

Miscellaneous

THE NORFOLK & WESTERN is asking for bids until 12 o'clock noon November 1, at Roanoke, Va., for about 1,450,000 tie dating nails, 300 steel car axles, 400, 33-in. steel wheels and 500 ft. of wire rope.

Signaling

THE IMPERIAL GOVERNMENT RAILWAYS OF JAPAN have ordered from the Union Switch & Signal Company 275 automatic signals for installation on main line tracks. Of the total number of signals, 135 are "T-2" a.c. semaphores and 140 arc color light signals. The order embraces complete track circuit equipment, including a total of 230 Model 15, vane relays, 630 SLV-13 a.c. relays, 450 track transformers, and complete track circuit accessories such as impedances, reactors, etc. This is the same class of material as used in the initial installation of automatic block signaling made by the Imperial Government Railways, now in service on the main line, consisting of 310 complete sets of similar material furnished by the Union Switch & Signal Company.

Supply Trade News

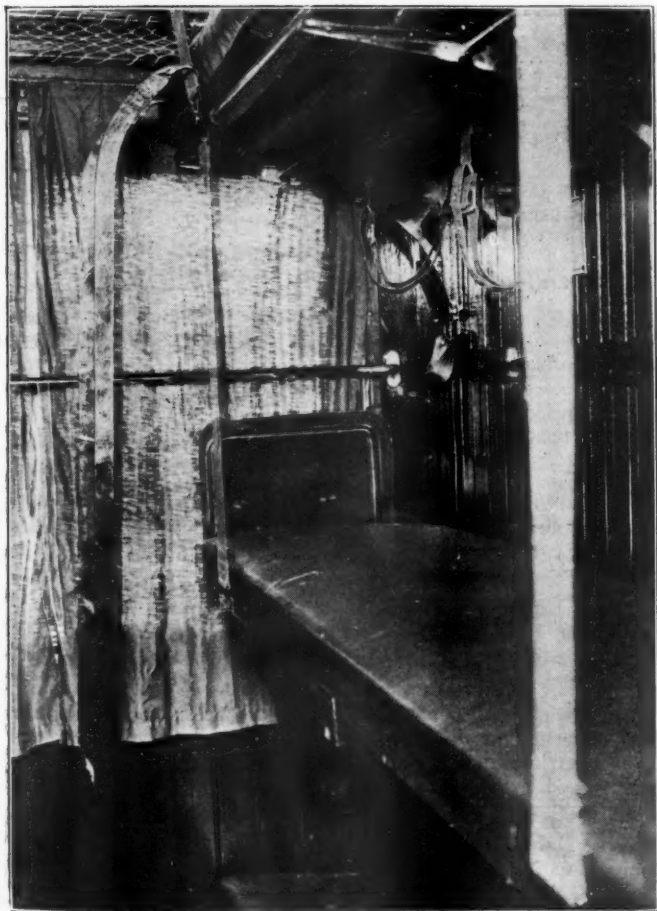
F. N. Bard, president of the Barco Manufacturing Company, Chicago, has also been elected president of the Argyle Railway Supply Company, Chicago.

The Geo. W. Fife Engineering Company, 1403 Merchants Bank building, Indianapolis, Ind., has been appointed representative in Indiana for the Conveyors Corporation of America, Chicago.

Walter S. McKee has resigned as vice-president and director of the American Manganese Steel Company and in future will develop the business of the Inland Engineering Company, Chicago, of which he is president.

A. F. O'Connor, mechanical engineer of the Union Railway Equipment Company, Chicago, has been elected vice-president, with headquarters at Chicago, R. C. O'Connor has been appointed mechanical engineer, and B. Smith, purchasing agent, with the same headquarters.

The Krantz Works of the Westinghouse Electric & Manufacturing Company have been moved to Mansfield, Ohio, from Brooklyn, N. Y., where they have been situated for a number of years. The transfer to Mansfield offers better facilities for increased production, gives the works location in the central part of the country with easy access to a large number of railroads and to both middle west and eastern offices of the Westinghouse Company.



International

A Compartment in a Third Class Sleeping Car in France

Railway Construction

ATLANTIC COAST LINE.—This company has awarded contracts for the laying of second main track as follows: Ashley River to Bennetts, S. C., 3 miles, to W. W. Boxley & Co., Roanoke, Va.; Ridgland, S. C., to Savannah River, 21 miles to E. W. Parket, Tampa, Fla.; Savannah River to Central Junction, Ga., 12 miles, to F. M. Jones, Savannah; Southover to Burroughs, Ga., 7 miles, to Williams Bros. Construction Company, Roanoke, Va.; Doctortown to Jesup, Ga., 4 miles, to the C. G. Kershaw Contracting Company, Birmingham, Ala.

CANADIAN PACIFIC.—This company has awarded contracts to T. Jamieson and Mr. Kenzie, Ltd., Calgary, Alta., for the extension of 12 stalls of the locomotive house at Calgary, Alta.; to A. C. Creelman & Company, Calgary, Alta., for the building of stations, section houses, grain loading platforms, stockyards and water tanks and for the fencing on 50 miles of the branch from Lanigan, Sask., to Naicam; to the Northern Construction Company, Winnipeg, for the completion of the grading on the extension from Cracknell, Man., to Inglis, a distance of 6.2 miles; and to the Hamilton Bridge Company, Hamilton, Ont., for the construction of two 90-ft turntables, for installation at Brandon, Man., and at North Bend, B. C.

GRAND TRUNK.—This company, which was reported in the *Railway Age* of September 30 as accepting bids until October 4 for a two-story brick freight house 20 by 32 ft. at Harvey, Ill., has awarded the contract to T. S. Leake & Co., Chicago.

MICHIGAN CENTRAL.—This company closed bids October 14 for a car repair shop 30 by 200 ft. at Niles, Mich., to cost approximately \$15,000.

PENNSYLVANIA.—See elsewhere in this issue item concerning electrification between Altoona and Conemaugh.

PENNSYLVANIA.—This company has awarded a contract to the McClintic-Marshall Company for extensive additions to its Juniata shops.



Photograph, Kadel & Herbert, N. Y.

A Tourist Train in Australia

Railway Financial News

BUFFALO, ROCHESTER & PITTSBURGH.—Bonds Offered.—Lee, Higginson & Co. are offering at 96¼ and accrued interest an issue of \$4,500,000 consolidated mortgage 4½ per cent gold bonds due 1957, and non-callable. The proceeds from the sale will be used to retire at maturity on December 1, 1922, \$3,655,000 6 per cent bonds, to provide additional working capital and to reimburse the company in part for the purchase of equipment paid for out of earnings. This issue has been authorized by the Interstate Commerce Commission.

CHICAGO, ATTICA & SOUTHERN.—Asks Authority for Operation.—This company has applied to the Interstate Commerce Commission for a certificate authorizing the acquisition and operation of that part of the Chicago & Indiana Coal Railroad extending from La Crosse to a point 25.76 miles north of Brazil, Ind., with a branch from Percy Junction to the Indiana-Illinois State Line. The commission recently had authorized the Chicago & Indiana Company to abandon the line and the part mentioned has been purchased by the new company for \$250,000.

ELECTRIC SHORT LINE.—Asks Authority to Issue Bonds.—This company has applied to the Interstate Commerce Commission for authority to issue \$660,000 of 15-year 5 per cent gold bonds to enable it to finance an extension of 44 miles westerly from Hutchinson, Minn., in the direction of Clare City.

LOUISIANA & ARKANSAS.—Authorized to Issue Bonds.—The Interstate Commerce Commission has authorized an issue of \$470,000 of first mortgage 5 per cent gold bonds to be pledged as collateral security for short term notes.

MACON & BIRMINGHAM.—Passenger Service Discontinued.—Judge H. A. Mathews in the Superior Court at Macon, Ga., has ordered all passenger service discontinued on this road, effective October 11. The order followed the recommendation of R. B. Pegram, receiver, who reported that the road was in bad physical condition. Freight service will be continued between Macon and La Grange, 97 miles.

MISSOURI, KANSAS & TEXAS.—Sale Again Postponed.—The sale of this road, scheduled for October 16, has again been postponed. The action was taken pending the approval by the Interstate Commerce Commission of the reorganization plan of the company.

NASHVILLE, CHATTANOOGA & ST. LOUIS.—New Director.—Walter O. Parmer, of Nashville, Tenn., has been elected a director to succeed W. W. Berry, deceased.

NASHVILLE, CHATTANOOGA & ST. LOUIS.—Equipment Trust Authorized.—The Interstate Commerce Commission has authorized this company to assume obligation and liability in respect of \$1,800,000 of equipment trust certificates to be issued by the United States Trust Company and sold at not less than 94.89.

PACIFIC SOUTHWESTERN.—Asks Authority to Sell Stock.—This company, which was incorporated for the purpose of building a standard gage railroad between Lompoc, Cal., and White Hills, a distance of 4 miles, has applied to the California Railroad Commission for authority to issue and sell its common stock at par, and to use the proceeds for the purchase of right-of-way and the construction of the road. The company is incorporated for \$100,000, divided into a thousand shares of a par value of \$100 each.

SEABOARD AIR LINE.—Partial Guaranty Payment Certified.—The Interstate Commerce Commission has certified to the Secretary of the Treasury a partial payment of \$300,000 on account of this company's guaranty for the six months period of 1920.

SOUTHERN RAILWAY.—Freer Hand Is Asked for Railway Officers.—The stockholders at their annual meeting in Richmond on October 10 unanimously adopted the following resolution which was introduced by Arthur C. Graves, of New Haven, Conn.:

Resolved, That we, the stockholders of Southern Railway Company, in annual meeting assembled, do hereby take this occasion to express our complete confidence in the corporate management and control of the railway

lines of this system, and of the ability of this railway company to furnish to the communities and the territory traversed by its lines, a proper, efficient and economical transportation system at the lowest possible rates consistent with the proper maintenance and sound credit, when operated under the management of its president, the board of directors and its officers; and that to this end we believe a larger degree of managerial responsibility and discretion should be returned to and vested in the president, board of directors and officers of this company free from the artificial restrictions of commission control; and further, that it is to the best interest, not only of the investing owners of these properties and the security holders, but also of the public and shippers in the way of reasonable rates, and of the operatives in respect of a proper standard of wage, and for a just settlement of industrial disputes, that the initiative in all matters of operation and management should be left to the sound judgment and business experience of the operating officers of this company.

Resumes Preferred Dividend.—The company has declared a semi-annual dividend of 2½ per cent on the preferred stock, payable November 15 to stock of record October 31. This is the first distribution on the issue since December, 1920, when the regular semi-annual distribution of 2½ per cent was made.

TEXAS & PACIFIC.—Asks Authority for Equipment Trust.—The receivers have applied to the Interstate Commerce Commission for authority to incur obligation and liability for \$810,000 of 5 per cent equipment trust certificates.

WESTERN PACIFIC.—Argument on Application for Authority to Acquire Control of Sacramento Northern.—The Interstate Commerce Commission has announced that oral arguments will be heard in this case at Washington on December 6 on the question involved in the interpretation of paragraph 1 of section 20a of the Interstate Commerce Act as to the meaning of the words "a street, suburban, interurban electric railway which is not operated as a part of a general steam railroad system of transportation." The request for argument was made by the American Short Line Railroad Association and others.

Railroad Administration Settlements

The United States Railroad Administration reports the following final settlements, and has paid out to be received from the several roads the following amounts:

Atchison, Topeka & Santa Fe, including following subsidiaries: Gulf, Colorado & Santa Fe, Panhandle & Santa Fe, Rio Grande, El Paso & Santa Fe, Kansas Southwestern, Grand Canyon Railway	\$21,500,000
Ashland Coal & Iron Railway	65,000
St. Joseph Union Depot Company	7,300
Port St. Joe Dock & Terminal Railway	4,500
Harlem Transfer Company paid Director General	20,000
Middletown & Unionville Railway paid Director General	45,000

Dividends Declared

Southern Railway.—Preferred, 2½ per cent, payable November 15 to holders of record October 31.

Trend of Railway Stock and Bond Prices

	Oct. 17	Last Week	Last Year
Average price of 20 representative railway stocks	73.63	72.35	54.58
Average price of 20 representative railway bonds	87.85	88.65	76.34

THE LONG ISLAND will receive bids until 12 o'clock noon November 1 for 108 rigid hard frogs, 109 alloy tipped switches, and 1,000 twin tie plates. All the above is for use with 100-lb. rail.

THE MISSOURI, KANSAS & TEXAS, reported in the *Railway Age* of October 14, as inquiring for 4,500 kegs of spikes and 2,000 kegs of bolts, has ordered this material from the Illinois Steel Company.

THE MISSOURI, KANSAS & TEXAS has placed an order with the Shaw Electric Crane Works of Manning, Maxwell & Moore, Inc., for an electric traveling crane of 180 tons' capacity, one of 40 tons' capacity and two of 15 tons' capacity.

MONTANA WILL DEDICATE the new engineering building of the Greater University of Montana to William Milnor Roberts, pioneer location engineer of the Northern Pacific. The suggestion of the university faculty that the memory of Mr. Roberts be thus honored has been approved by the State Board of Education. The new building is now under construction on the college campus at Bozeman.

Railway Officers

Executive

S. J. Hungerford has been appointed vice-president with the title of vice-president and general manager of the Canadian National until Sir Henry Thornton, president, takes up the duties of his office. Mr. Hungerford will exercise the authority and perform the duties hereto exercised by the retiring president, D. W. Hanna.

D. E. Galloway, assistant to the president of the Grand Trunk, has been appointed assistant vice-president of the system. Mr. Galloway was born at Crief, Ontario, in 1882



D. E. Galloway

and entered the service of the Grand Trunk at Hamilton, Ontario, on February 1, 1901. In 1904, Mr. Galloway was appointed secretary to Charles M. Hays, then president of the Grand Trunk Pacific and the Grand Trunk Western. After occupying this position for seven years he was appointed in October, 1911, assistant to the president of the Grand Trunk and served in this capacity until the time of his appointment as assistant vice-president.

T. A. Hamilton, vice-president and assistant to the president of the St. Louis-San Francisco, with headquarters at St. Louis, Mo., has been elected president of the International-Great Northern, with headquarters at Houston, Tex. **J. W. Kendrick**, consulting engineer, Chicago, and formerly vice-president of the Atchison, Topeka & Santa Fe, has been elected chairman of the board.

Financial, Legal and Accounting

L. L. Atwood, has been appointed contract attorney of the Missouri Pacific with headquarters at St. Louis, Mo.

C. H. Moses has been appointed secretary of the Grayson, Nashville & Ashdown with headquarters at Little Rock, Ark. **G. H. Bell** has been appointed treasurer; **W. E. Collins** has been appointed auditor and car accountant and **J. D. Sain** has been appointed attorney with headquarters at Nashville, Ark.

Operating

E. G. DeLong has been appointed assistant trainmaster of the Pennsylvania, with headquarters at Toledo, Ohio.

C. C. Hill, has been appointed superintendent of the Grayson, Nashville & Ashdown with headquarters at Nashville, Ark.

A. N. Williams has been appointed general manager of the Midland Valley with headquarters at Muskogee, Okla., effective October 14.

J. H. Fraser, executive general agent of the St. Louis-San Francisco, with headquarters at Memphis, Tenn., has been promoted to assistant general manager, with headquarters at Springfield, Mo.

G. H. Munchin, assistant superintendent of the Atchison, Topeka & Santa Fe with headquarters at Marceline, Mo.,

has been appointed superintendent of the Illinois division with headquarters at Chillicothe, Ill. He has been succeeded at Marceline by **W. A. Guild**, engineer, East district, with headquarters at Topeka, Kan.

Charles Manning, assistant to the vice-president of the Grand Trunk, has been appointed assistant operating manager, Eastern lines. Mr. Manning began his railroad career with the Great Western at Bristol, England. In 1883 he entered the office of the mechanical superintendent of the Grand Trunk at Montreal and, in 1898, was advanced to chief clerk in the motive power department. He was appointed assistant to the vice-president in charge of the mechanical department on January 1, 1917, and assistant to vice-president in charge of operation in May, 1920, which latter position he held at the time of his recent promotion.

W. D. Dilley, whose promotion to superintendent of the Louisville, Cincinnati & Lexington division of the Louisville & Nashville was reported in the *Railway Age* of August 26, was born on December 7, 1869, at Macksburg, Ohio. He entered railway service in June, 1887, as an operator on the Baltimore & Ohio where he remained until 1890. From that time until 1892 he was consecutively an operator on the Missouri, Kansas & Texas and on the Pittsburgh division of the Pittsburgh, Cincinnati, Chicago & St. Louis (Pennsylvania). He returned to the Baltimore & Ohio as an operator in 1892, and entered the service of the Louisville & Nashville as an operator in August, 1894, since which he has been copy operator in the dispatcher's office, agent, and agent-yardmaster. On June 1, 1907, he was promoted to trainmaster of the Lebanon branch and in 1917, to inspector of transportation, which position he held until August, 1918. He was appointed superintendent of terminals at Louisville, Ky., on the latter date and when the former superintendent of terminals returned from government service on March 1, 1920, he was transferred to the Louisville, Cincinnati & Lexington division as assistant superintendent, which position he held until his recent promotion.

C. J. Bowker, general superintendent of the Ontario Lines of the Grand Trunk, has been appointed operating manager of the Lines East of the Detroit and St. Clair rivers. Mr.

Bowker entered the service of the Grand Trunk in 1900 as a train dispatcher at London, Ontario, and shortly thereafter was appointed chief train dispatcher and subsequently to train master, serving at various points on the system until 1909, when he was appointed assistant superintendent of the Stratford division. A year later he was advanced to superintendent of the St. Thomas division and in 1913 was appointed to general superintendent of the Eastern Lines.



C. J. Bowker

In that capacity, he handled during the period of the war the heavy war traffic which was carried by the railway to the ports of Montreal, Quebec and Portland. In 1918 he was transferred to the Ontario lines as general superintendent, which position he held until the time of his recent promotion.

D. W. Bowker, whose promotion to division superintendent of the St. Louis Southwestern with headquarters at Pine Bluff, Ark., was reported in the *Railway Age* of October 14, was born on October 9, 1883, at Collinsville, Ill. He entered railway service in 1903, with the Vandalia (Pennsylvania) and was in the employ of the Missouri Pacific from 1909 to 1916. On November 17, 1916, he entered the service of the St. Louis Southwestern as yardmaster and was later pro-

moted to general yardmaster. He held this position until April 1, 1920, when he was promoted to assistant superintendent, which position he held until his recent promotion.

Traffic

A. W. May has been appointed commercial agent of the Illinois Central with headquarters at San Francisco, Cal.

G. W. Wood, has been appointed general agent of the Chesapeake & Ohio with headquarters at Cincinnati, O.

B. Wagner, division freight agent of the New York Central with headquarters at Toledo, Ohio, has been appointed assistant general freight agent with headquarters at Chicago, succeeding **E. L. Whitney**, promoted. Mr. Wagner will be succeeded by **W. J. Keller**, division freight agent with headquarters at Kankakee, Ill., who in turn will be succeeded by **L. Blue**, general agent, with headquarters at Buffalo, N. Y.

G. Thompson, general agent of the Kansas City, Mexico & Orient, with headquarters at Kansas City, Mo., has been promoted to general freight agent in charge of solicitation with the same headquarters. He was born on February 18, 1888, at Larned, Kan., and entered railway service on August 16, 1906, as a station helper on the Atchison, Topeka & Santa Fe, at Halstead, Kan. From November 20, 1906, to September 17, 1908, he was employed as a baggage and freight checker at Dodge City, Kan., and from the latter date to July 19, 1910, he was a telegraph operator and agent at various points in Kansas. On July 19, 1910, he entered the service of the Kansas City, Mexico & Orient and until December 11, 1918, was employed as an agent and operator at various points, working at intervals on the construction of the line from San Angelo, Tex., west. He worked as a clerk in the office of the freight claim agent at Wichita, Kan., from December 11, 1918, to February 8, 1919, when he was promoted to traveling auditor, which position he held until April 1, 1920. On this date he was promoted to general agent with headquarters at Kansas City, Mo., which position he was holding at the time of his recent promotion.



G. Thompson

Engineering, Maintenance of Way and Signaling

L. P. O. Exley, office engineer of the Gulf, Mobile & Northern, at Mobile, Ala., has been promoted to assistant chief engineer, with the same headquarters.

R. W. Meek, signal supervisor of the Southern Pacific with headquarters at Houston, Tex., has been appointed acting signal engineer with the same headquarters, succeeding **E. E. Worthing**, who is on leave of absence.

F. M. Bisbee, chief engineer of the Atchison, Topeka & Santa Fe, Western Lines, with headquarters at Amarillo, Texas, will retire on November 1. He will be succeeded by **M. C. Blanchard**, superintendent of the Illinois division. **W. C. Baisinger**, roadmaster at Ottawa Junction, Kansas, has been promoted to Engineer, East district, with headquarters at Topeka, Kan.

Mechanical

A. McCormick has been appointed master mechanic of the Graysonia, Nashville & Ashdown with headquarters at Nashville, Ark.

C. Peterson has been appointed acting master mechanic of the Denver & Salt Lake with headquarters at Denver, Colo.

J. D. Young, has been appointed assistant master mechanic of the Central of New Jersey, with headquarters at Ashley, Pa. **David Evans** has been appointed road foreman of engines with the same headquarters.

John J. Hanlin, whose appointment as assistant superintendent of motive power of the Seaboard Air Line was announced in the *Railway Age* of September 23, page 592, was born on June 1, 1871, in Texas county, Mo. He was educated in the high schools of Birmingham, Ala., and left school in 1888 to enter the employ of the Savannah, Americus & Montgomery (now Seaboard Air Line). A short time thereafter he left this road for a private machine shop where he completed his apprenticeship as a machinist and in July, 1891, re-entered the service of the Savannah, Americus & Montgomery as a machinist. From 1891 to 1898 he served the same company as a hostler, fireman and yard engineman at Americus, Ga. From 1898 to 1900 he was in the employ of the Louisville & Nashville at Birmingham as a machinist and gang foreman. From 1900 to 1903 he was general foreman and locomotive engineman for the Birmingham Southern at Pratt City, Ala. During the latter year he entered the service of the Southern as a machinist and roundhouse foreman at Birmingham and, the following year, entered the employ of the Seaboard Air Line in the same capacity at Birmingham; in 1906 he was promoted to general foreman at the same place and, in 1907, to master mechanic of the Georgia division. In this latter capacity he was serving at the time of his recent promotion.



J. J. Hanlin

E. W. Smith, engineer of transportation of the Pennsylvania with headquarters at Philadelphia, has been appointed general superintendent of motive power of the Southwestern region with headquarters at St. Louis, Mo. **W. C. A. Henry**, general superintendent of motive power at St. Louis, has succeeded Mr. Smith as engineer of transportation.

Purchasing and Stores

C. F. Leatherman has been appointed acting purchasing agent of the Kansas, Oklahoma & Gulf with headquarters at Muskogee, Okla.

Special

W. G. Slaughter has been appointed acting chief special agent of the Seaboard Air Line with headquarters at Norfolk, Va., succeeding **M. Welsh**, resigned to accept service with another company.

Obituary

J. A. Stewart, former minister of railways of Canada died at Halifax, N. S., on October 7.

T. W. Place, who was master mechanic of the Illinois Central with headquarters at Waterloo, Ia., until he retired on a pension on November 1, 1901, died on October 9 at Waterloo after a few months of ill health. He was born on January 2, 1833, at Acworth, Sullivan county, N. H., and entered railway service in 1853 as a locomotive fireman on the Boston & Maine. In 1854 he became a locomotive engineer on the Illinois Central, and on September 1, 1861, he was promoted to master mechanic at Dubuque and later at Waterloo.